XD – P1B/C/E/G/J
XD – P1PRO G/J

JVC

JVC -02689

SERVICE MANUAL

PORTABLE DAT RECORDER

XD-P1 B/C/E/G/J
XD-P1PRO G/J

DAT
Digital Audio Tape

Since any description is not made on the accessory digital microphone MU-Z1 in this manual, refer to the Service Manual MU-Z1B/C/E/G/J (Issue No. 4340) issued previously wherever necessary.

Contents

1.Difference comparision of XD – P1 and XD – P1PRO ······ 2
2.Main Features ······ 3
3.Specifications ······ 3
4.Instructions(Extract) ······ 4
5.Removal of Main Parts ······ 26
6.Exploded View of Enclosure Assembly and Parts List ······ 30
7.Exploded View of Enclosure Assembly and Parts List ······ 32
8.Location of Main Parts ······ 36
9.Main Adjustment ······ 37
10.Block Diagram ······ 48
11.Wiring Connection ······ 49
12.Standard Schematic Diagram ······ 50
13.Location of P.C. Board Parts ······ 57
14.Electrical Parts List ······ 61
15.A/D convertor XD – AD1 ······ 68
16.Rechargeable Battery AA – R909 ······ 74
17.Wired Remote Control Unit ······ 79
18.Illustration of Packing and Parts List ······ 80

2689

No. 4344
January 1993

Difference comparison of XD – P1 and XD – P1PRO

Item	XD – P1B/C/E/G/J	XD – P1PROG/J
1. Contents of Set	• XD – PD1(Main unit) • XD – AD1(A/D Convertor) •Accessories AC adapter / Recharger (AA – R909) × 1 Rechargeable battery (BN – R602) × 1 Wired remote control × 1 Connection cord with two pin plug and stereo mini plug × 2 DC cord (Rechargeable battery) × 1 •Optional accessories Digital microphone (MU – Z1) × 1 Microphone stand × 1 Power unit × 1 Coaxial cable × 1 Battery × 1	• XD – PD1PRO (Main unit) • XD – AD1 (A/D Convertor) • Accessories AC adapter / Recharger (AA – R909) × 1 Rechargeable battery (BN – R602) × 1 Wired remote control × 1 Connection cord with two pin plug and stereo mini plug × 2 DC cord (Rechargeable battery) × 1 Digital microphone (MU – Z1) × 1 Microphone stand × 1 Power unit × 1 Coaxial cable × 1 Battery × 1
2. Function ① Digital copy	• This (System) is requlated / limited by the (serial copy management system) .	• With this SCMS, it is possible to perform digital copy independently regardless of " COPY PROHIBIT " . Then, " COPY OK " will be recorded .
② Recording on sumpling frequency 44.1 kHz	• Fail • Only umpling frequency 48kHz,32kHz.	• By pressing the " ENTER " key during " REC PAUSE " at the time of analog input, it is poseible to change the sampling frequency. The sampling frequency consiats of the following three : 48kHz, 44.1kHz, 32kHz.
3. Parts ① Electrical parts	UPD75516GF – 243	UPD75P516G – P(MICRO COMPUTER)
② Mechanism Parts	VJG1043 – 003 VJD5394 – 002	VJG1043 – 004 (Bottom cover) VJD5394 – 003 (Door lens)

Main Features

1. **Compact and light weight portable DAT (Digital Audio Tape) recorder**
   - Digital I/O (coaxial) terminal
   - In addition to digital recording, an A/D converter unit can be connected for the recording of analog sources
   - Newly-developed small 20 mm dia. head drum mechanism
2. **Snap-on A/D converter unit.**
   - Microphone/Line (analog) input terminals
   - Digital (optical) input terminal
3. **Two-channel all-mode compatibility (Recording and playback are possible in the following modes.)**
   - 48 kHz mode: Sampling frequency of 48 kHz, 16-bit linear quantization
   - 44 kHz mode: Sampling frequency of 44.1 kHz, 16-bit linear quantization
   - 32 kHz : Sampling frequency of 32 kHz, 16-bit linear quantization
   - 32 kHz LP (Long Play) mode: Sampling frequency of 32 kHz, 12-bit non-linear quantization
   - 44 kHz WT (Wide Track, playback only) mode: Sampling frequency of 44.1 kHz, 16-bit linear quantization
4. **Digital editing capability**
   - Since SCMS copy prohibit codes are not recorded when using this unit, recordings can be digitally edited as many times as required.
5. **Fourth-order noise-shaping 1-bit ADC (Analog to Digital Converter)**
6. **18-bit digital bias DAC (Digital to Analog Converter)**
   - 8 times oversampling digital filter
   - Digital de-emphasis
7. **Subcode rerecording (after recording)* function**
   - * This means adding subcodes to a previously recorded tape.
   - Start ID and Program No. codes can be recorded or deleted after completing recording.
8. **Wired remote control for easy tape operations**
   - With headphones and COMPU LINK-1 terminals
9. **2-way power supply; household AC and rechargeable battery**
   - The recorder can be operated while recharging with the AC adapter/charger provided.
   - Rechargeable battery BN-R602 provided for approx. 2.5 hours continuous recording.

Specifications

Basic format : Conforming to R-DAT format, proposed by the DAT conference

Operation modes used :

	Recording/playback mode				Playback only mode
	48k	44k	32k	32k-LP	44k-WT
Tape speed (mm/sec)	8.15	8.15	8.15	4.075	12.225
Recording/play back time (R-120)*	120 min.	120 min.	120 min.	240 min.	80 min.
Sampling frequency	48 kHz	44.1 kHz	32 kHz	32 kHz	44.1 kHz
Number of bits (quantization)	16-bit linear	16-bit linear	16-bit linear	12-bit non-linear	16-bit linear

Number of channels : 2 channels, stereo
Frequency range : 10 Hz – 22,000 Hz ±0.5 dB (48k mode)
10 Hz—20,000 Hz±0.5 dB (44k mode)
10 Hz – 14,500 Hz ±0.5 dB (32k/32k-LP mode)
Signal-to-noise ratio : 90 dB (48k mode recording/playback)
Dynamic range : 90 dB (48k mode recording/playback)
Total harmonic distortion : 0.008% (1 kHz, 48k mode recording/playback)
0.08% (1 kHz, 32k-LP mode recording/playback)
Wow & flutter : Less than measurable limit (±0.001% W.PEAK)

Access time : 5 minutes running time ;12.0 seconds
60 minutes running time ; 57.0 seconds
Fast forward/rewind time : Approx. 100 seconds (R-120 cassette)
Error correction system : Doubly-encoded Reed-Solomon Code
Input terminals :

	Terminal type	Input impedance	Input level
MIC/LINE IN	Stereo mini jack	MIC 600 ohms - 10 kohms/LINE 47 kohms	MIC 0.25 mV/LINE 80 mV
OPTICAL IN	"TOS" link	—	–24 dBm ~ –14.5 dBm

Output terminals:

	Terminal type	Output impedance	Output level
PHONES/ LINE OUT	Special mini jack	8 ohms - 1 kohms (100 ohms)	0.5 mW/8 ohms at VOL 40 (250 mV/50 kohms) Max. 15 mW

Input/output terminals

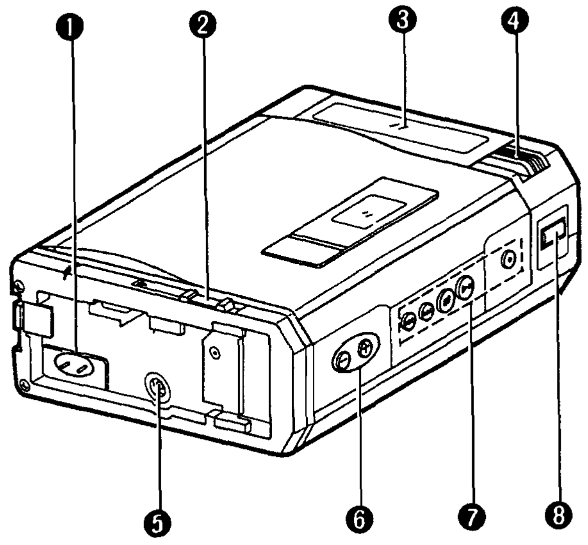
	Terminal type	Input/output impedance	Input/output level
DIGITAL I/O	Stereo mini jack	75 ohms/75 ohms	0.5V p-p/0.5V p-p

- Channel status data format for digital audio interface, conforms to Consumer use of IEC958, not Professional use.

Instructions(Extract)

NAMES OF PARTS AND THEIR FUNCTIONS

- **Main unit (XD-PD1PRO)**



❶ Battery terminal
This terminal is for connection of the rechargeable battery pack.

❷ RELEASE control
Slide this control in the ▶ direction to remove the rechargeable battery pack.

❸ Display window

❹ POWER switch
Press in the ◀ direction to switch the power on or off. If no operations are performed for about 5 minutes, the power is switched off automatically (auto power-off mechanism).
* The power switch can be set to on or off regardless the position of the hold switch.

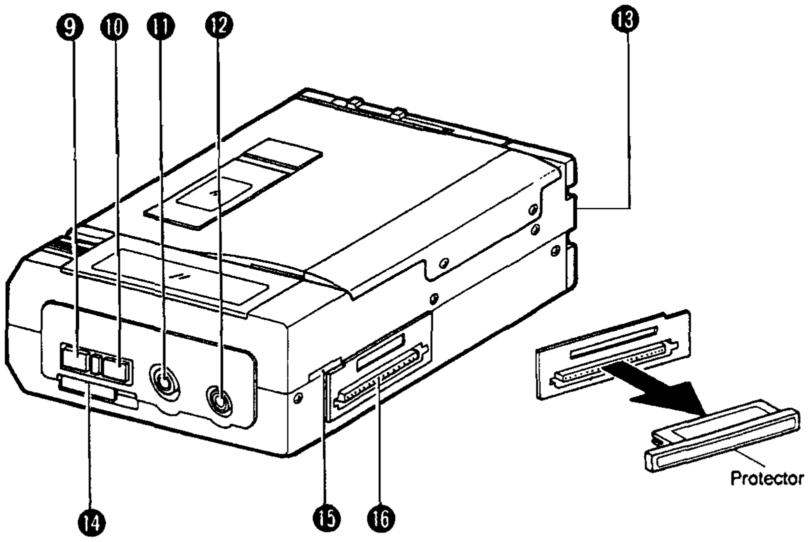
❺ DC IN 9V terminal (⊖—©—⊕)
Connect a DC cord when the main unit is used with a AC adapter.

❻ **VOLUME buttons**
Control the volume of headphones.
+: The volume is increased.
–: The volume is decreased.
The selected level (VOL 00 - VOL 50) will be shown in the display window.

❼ Cassette operation buttons

- **In the stop mode**
  - ⏮ REW : Press continuously to rewind the tape. Press momentarily to detect the previous tune's Start ID code.
  - ⏭ FF : Press continuously to fast forward the tape. Press momentarily to detect the next tune's Start ID code.
  - ▶II PLAY/PAUSE : Press to start playback.
  - ● REC : Press the ▶II button while depressing this button to engage the record-pause mode.
- **In the play mode**
  - ⏮ REW : Keep pressing to review the tape. Press momentarily to detect the previous tune's Start ID code.
  - ⏭ FF : Keep pressing to cue the tape. Press momentarily to detect the next tune's Start ID code.
  - ■ STOP : Press to stop the tape.
  - ▶II PLAY/PAUSE : Press to stop the tape temporarily.
- **In the record mode**
  - ⏮ REW : Press to cancel the recording
  - ⏭ FF : Press to switch the indicators in the display window between "PK" and "PNO".
  - ■ STOP : Press to stop the recording.
  - ▶II PLAY/PAUSE : Press to start recording or to engage the record-pause mode.
  - ● REC : Press to engage the record-mute mode.

❽ EJECT ⏏ button
Press when you want to load or unload a DAT tape. Be sure to press this button after switching the recorder on.



⑨ ENTER button
ID codes are marked or erased according to the subcode processing mode. Each time this button is pressed in the recording mode, a Start ID code is marked, except when set to mark an End-I (information) subcode.
When the recording mode is set to the standard and analog rec-pause modes, the sampling frequency can be changed (see page 13).

⑩ MODE select button
Each time this button is pressed, the subcode processing mode is changed and the mode is shown in the display window as follows.

- **In the play or stop mode** (see page 42.)
OFF → ST-In (Start ID code marking) → ST-Er (Start ID code erasing) → SP-In (Skip ID code marking) → Sp-Er (Skip ID code erasing) → End-I (End information marking) → End-E (End information erasing) → RENUM (Renumbering).
- **In the recording mode** (see page 40.)
AudiO (Audio) → dATA (Data) → MAnuL (Manual mode) → End-I (End information marking).

⑪ LINE OUT/PHONES terminal (3.5 mm dia. special mini)
When listening with headphones, connect headphones with a stereo mini plug (available from any audio store).
When using the remote control, connect the wired remote control provided. With the wired remote control connected, the COMPU-LINK-1 terminal is set to the operation mode.

⑫ DIGITAL I/O terminal (3.5 mm dia. stereo mini)
Connect to a stereo amplifier, etc. with digital in/out terminals.

⑬ Installation hook
Use when installing the A/D converter unit or MU-Z1 digital microphone.

⑭ HOLD/H. BASS (Hyper-Bass Sound) switch

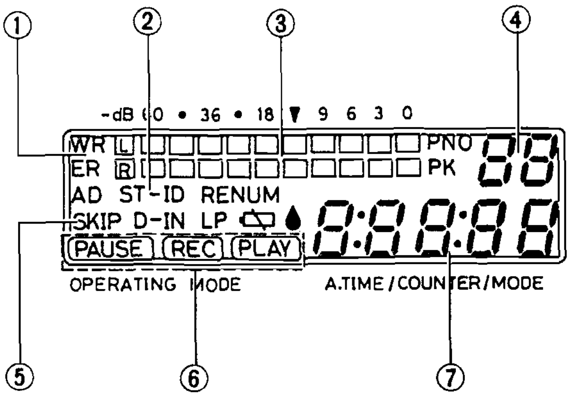
- **HOLD**: When the switch is set to this position, all operation buttons except the power button are set to the hold mode and even when a operation button is pressed, the mode is not changed. Set to off before starting operation. See page 26.
- **H. BASS**: When the switch is set to this position, low frequencies are emphasized in the headphone output. See page 51.

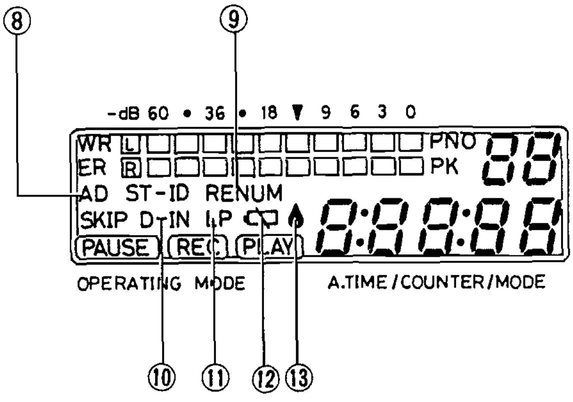
⑮ Installation hole
Use when installing the A/D converter unit or MU-Z1 digital microphone.

⑯ SYSTEM I/O terminal (female)
Use for the connection of the A/D converter unit or digital microphone MU-Z1.

- Use after removing the protector.

- **Display window**





① Subcode marking (writing)/erasing indicators
- **WR:** Indicated during subcode marking.
- **ER:** Indicated during subcode erasing.

② Start ID code indicator
This indicator blinks during Start ID code marking and lights when a Start ID code is detected during playback.

③ Peak level meters
These indicate the peak levels during record/playback; the "▼" shows the reference level.
When stopped, the meters indicate in how many minutes the power will be switched off (by counting down from 5 minutes to 1 minute).
During fast-forward or rewind, they indicate the tape travel direction.

④ Program number/digital peak indicator
Normally, the program number (PNO) is indicated.
During recording, the digital peak (PK) is indicated.
When the ▶▶| button is pressed for a few seconds, the indicator switches between PK and PNO.

⑤ Skip ID indicator
Lights when marking a Skip ID code.

⑥ Mechanism mode indicators
- PAUSE: This is indicated in the pause mode and blinks during record cancel.
- REC: Light in the recording or record-pause mode. Blinks during record muting.
- PLAY: Lights during playback. Blinks during scanning.

⑦ Digital counter display
The absolute time is indicated when marking A. TIME subcodes. When not marking A.TIME subcodes, the counter acts as a tape counter. When the VOLUME button or MODE select button is pressed, the corresponding mode is indicated for about 2 seconds.

⑧ A (Audio)/D (Data) indicator
- A: This is indicated when the Start ID code is marked using the audio input signal level.
- D: This is indicated when the Start ID code is marked using the digital input signal.

⑨ RENUM (Renumbering) indicator
When renumbering the program numbers press the MODE select button until this indicator lights then perform renumbering.

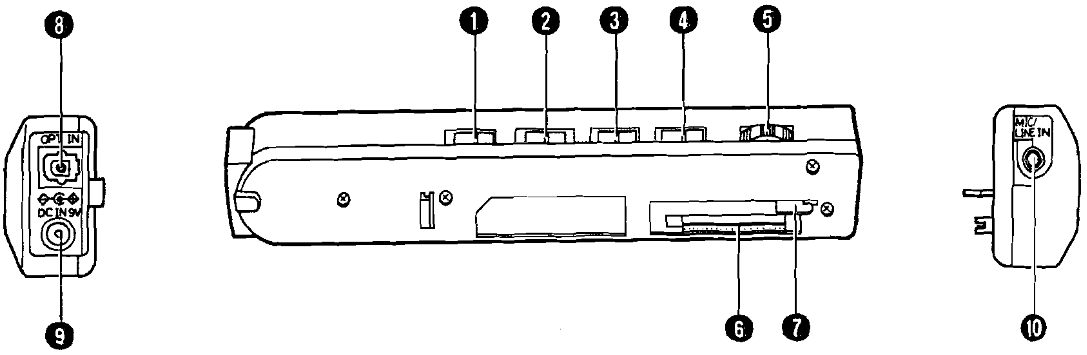
⑩ D-IN (Digital signal input) indicator
This indicator lights when recording a digital input signal. See page 38.

⑪ LP mode indicator
Lights when recording a tape in the 32k-LP mode or playing back a tape recorded in the 32k-LP mode.

⑫ Battery power indicator
Blinks when the rechargeable battery pack is nearly exhausted. When this indicator blinks, replace the battery pack or recharge it.

⑬ Condensation indicator
This lights when moisture has condensed inside the recorder; operations other than those of the ⏏ EJECT button and POWER switch are disabled.

- **A/D converter unit (XD-AD1)**



❶ REC MODE switch
Select the recording mode as required.

	Analog recording	Digital recording**	
LONG	32k-LP mode	32k-LP mode	48k/44k mode (same mode as source signal)
STANDARD	48k/44k/32k mode can be selected.*	32k mode	

* Each time the ENTER button is pressed in the rec-pause mode, the mode will change as follows: 48k, 44k, 32k to 48k.

FS-48 → FS-44 → FS-32

When A is shown in the display window, the mode changes can be performed. However, when D is displayed, this is not possible.

** In the 48k and 44k modes, recording is digital regardless of the position of the REC MODE switch.

❷ Source switch
Set according to whether analog or digital signals are to be recorded; switch before engaging the record-pause mode. When the record-pause mode is engaged for ANALOG or OPT/COAX recording, "A" or "D" is indicated in the display window. (See pages from 29 to 31.)

❸ MIC ATT (mic attenuator) select switch
Normally, set to 0 dB. When the input sound is loud, set to 20 dB to reduce (attenuate) the sensitivity by 20 dB and prevent distortion.

❹ Input select switch (analog)
- **MIC**: When recording from an analog microphone.
- **LINE**: When recording line inputs.

❺ INPUT LEVEL control (analog)
Use to adjust the recording level when making an analog recording.

❻ SYSTEM I/O terminal (male connector)
Connect to the main unit.

❼ Installation metal fixture
Insert into the installation hole of the main unit.

❽ OPT IN terminal
Connect an optical digital cable when performing digital recording with optical input signals.

❾ DC IN 9V terminal (⊖-⊙-⊕)
Connect a DC plug when using an AC adapter.

❿ MIC/LINE IN terminal (3.5 mm dia. stereo mini)
Connect a DC plug when using an AC adapter. terminals of an amplifier, CD player, etc.

POWER SUPPLY

USE THE AA-R909E/AA-R909J TO CHARGE THE BN-R602 OR BN-R604. OTHER TYPES OF BATTERIES MAY BURST CAUSING PERSONAL INJURY AND DAMAGE.

Rechargeable battery pack
The provided rechargeable battery pack is not charged when it is shipped. Recharge the battery pack before use.

How to recharge the battery pack

Recharge just before use:

- The rechargeable battery pack discharges naturally when it is not used. You should recharge it just before using it.
- It is recommended to recharge the battery pack at an ambient temperature of 10 - 35°C.
- Recharging may not be as effective in a cold place as in a warm place.

Recharge when the battery pack is completely exhausted:
Use till exhausted → Recharge → Use till exhausted
↑______ Recharge ←______|

- If the battery pack is recharged before it is completely exhausted, the capacity of the battery pack may be reduced.

The recorder stops operation automatically 2 minutes after the (▭) mark starts blinking. Use this blinking as a reference for recharging.

- Do not repeat recharging without fully using the battery pack, as this will reduce the capacity of the battery pack.

When the usable time become shorter.....
A rechargeable battery pack has a limited service life:

- When the battery pack is left unused for a extended period of time (for example, one year), the usable time becomes shorter after recharging. However, when recharging and discharging (completely consuming the power) are repeated several times, the capacity will normally be restored.
- When completely consuming the power and recharging are repeated and you have handled the battery pack correctly, if the usable time becomes shorter, it shows that the battery pack is nearly at the end of its service life. The battery pack can be used a little longer in this condition, however, it is recommended that you purchase a new battery pack.

* Rechargeable batteries can be recharged approximately 300 times.

Storing the battery pack

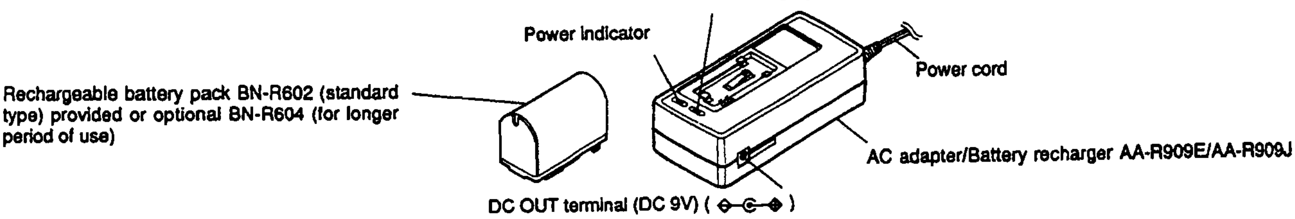
- Store it in a cool and dry place.
- When the power of main unit is switched off, a small amount of current flows. It is better to detach the battery pack from main unit when it is not to be used for an extended period of time.
- Store the battery pack after completely exhausting it when it is not to be used for an extended period of time.

When the rechargeable battery pack is replaced.....

- Do not disassemble it.
- Do not throw it into a fire.

Recharging the battery pack — Be sure to recharge the battery pack before use —

1. Plug the power cord into an AC outlet.


Recharging indicator
To household AC outlet
Power indicator
Power cord
Rechargeable battery pack BN-R602 (standard type) provided or optional BN-R604 (for longer period of use)
AC adapter/Battery recharger AA-R909E/AA-R909J
DC OUT terminal (DC 9V) (⊖-⊂-⊕)

	Recharging time
BN-R602	Approx. one hour with quick recharging
BN-R604	Approx. two hours with quick recharging

* When the DAT recorder is used in this condition, power is supplied directly from the AC adapter/battery charger via the DC cord. See page 23.

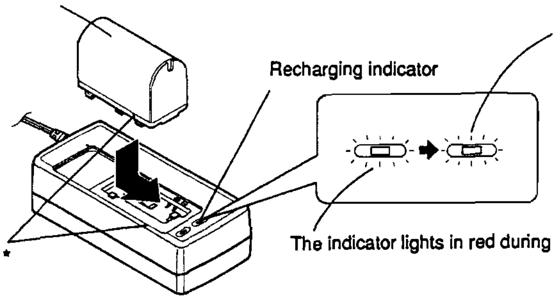
2. Loading the rechargeable battery pack

- Recharging indicator lights.

* Align the marks and slide in the direction of the arrow.

- Remove the battery pack by sliding in the opposite direction to the arrow.
- The battery pack may get warm during recharging, however, this is not abnormal.
- When the DC cord is connected during recharging, the recharging stops and the recharging indicator goes out.

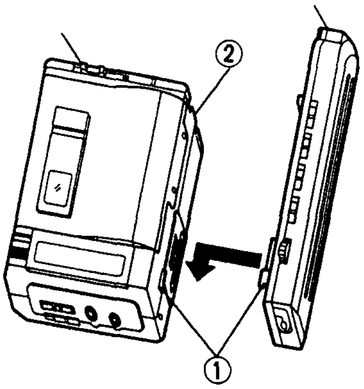
Note:
When recharging is performed near a radio or TV, noise may be generated. Recharge at an appropriate distance from them.


BN-R602 or BN-R604
The indicator lights in green when recharging is complete.
Recharging indicator
The indicator lights in red during recharging.
*

arga.

Operation with rechargeable battery pack

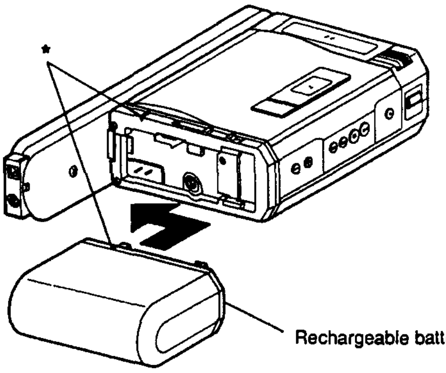
A. Installing the battery pack on the main unit + A/D converter unit
1. Installing the A/D converter unit on the main unit.


A/D converter unit
RELEASE control
②
Main unit
①

① Insert the metal fixture into the installation hole and slide in the direction of the arrow.
② Insert into the installation hole of the A/D converter unit.

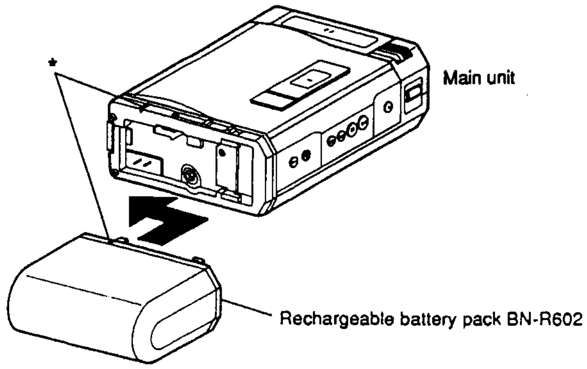
2. Install the rechargeable battery pack.

* Align the marks and slide in the direction of the arrow while pressing the RELEASE button in the ► direction.


*
Main unit
Rechargeable battery pack BN-R602

B. Installing only the rechargeable battery pack on the main unit

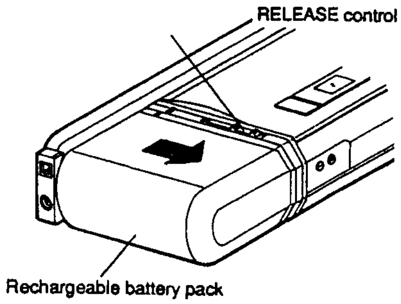
1. Installing the battery pack on the main unit
   - Align the marks and slide in the direction of the arrow while pressing the RELEASE button in the ► direction


*
Main unit
Rechargeable battery pack BN-R602

Operation using household AC

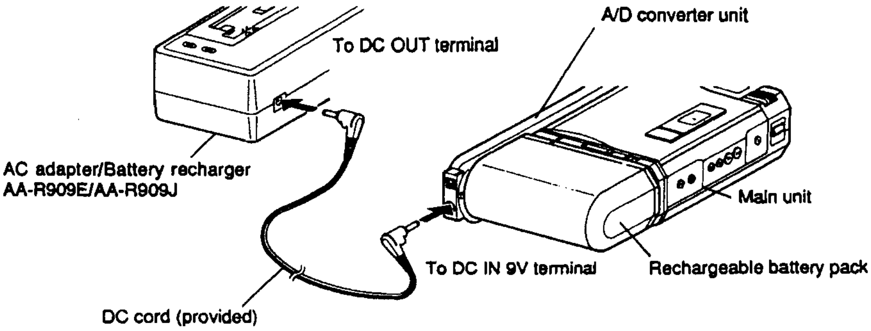
- Connect the AC power cord to a household AC outlet. With this connection, the rechargeable battery pack can be recharged. (The battery pack will be fully recharged in an approx. 8 hours.)

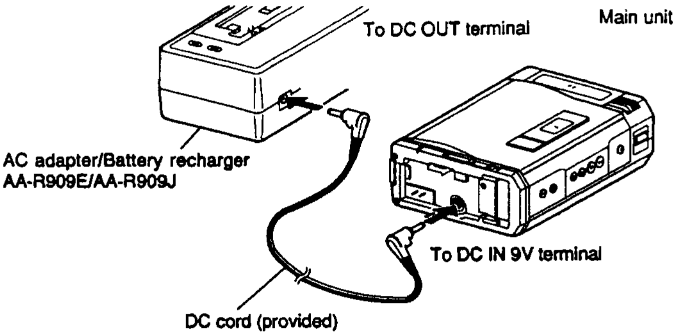
- Removing the rechargeable battery pack
  Remove the battery pack by pulling in the direction of the arrow while pressing the RELEASE button in the ► direction.


RELEASE control
Rechargeable battery pack

Note:

- After the A/D converter unit has been installed on the main unit, it can be fixed by installing the battery pack. If the battery pack is not installed, be careful as the A/D converter unit can be removed easily.
- Install and remove the battery pack while pressing the RELEASE button in the ► direction.


A/D converter unit
To DC OUT terminal
AC adapter/Battery recharger
AA-R909E/AA-R909J
Main unit
To DC IN 9V terminal
Rechargeable battery pack
DC cord (provided)

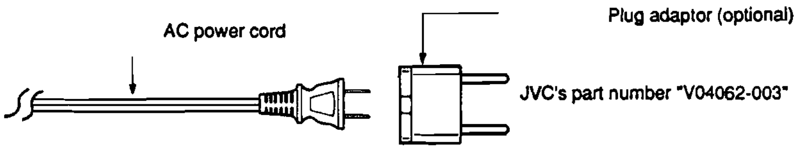

To DC OUT terminal
Main unit
AC adapter/Battery recharger
AA-R909E/AA-R909J
To DC IN 9V terminal
DC cord (provided)

USING HOUSEHOLD AC PLUG ADAPTOR

(J version only)

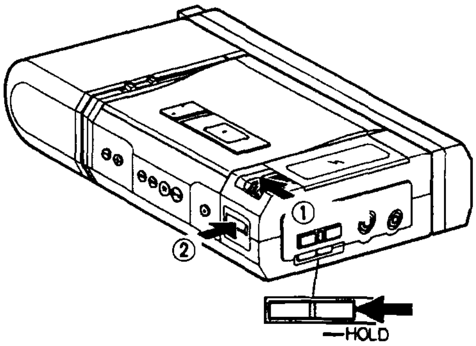
In case connecting the attached Power Cord to an AC wall outlet of other than American National Standard C73 series type, use an AC plug adaptor (called "Siemens Plug") as shown below.
For this AC plug adaptor, ask your nearest JVC local dealer.

Note:
When the recorder is used with household AC, the main unit may get warm. However, this is not a malfunction.


AC power cord
Plug adaptor (optional)
JVC's part number "V04062-003"

DAT CASSETTES

How to load a DAT cassette (before starting recording/playback)



Set the HOLD switch to off. (If it is set to on, button operation cannot be performed.)

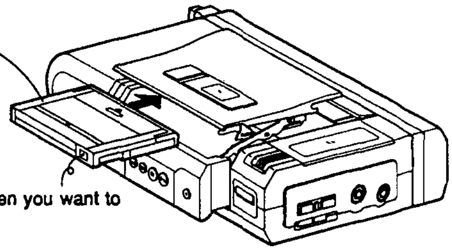
① Switch the power on.
- When pressed again, the power is switched off.

② Press the ▲ EJECT button.
- The cassette holder opens.
- Since a part of mechanism comes out with cassette holder, do not press any of the cassette operation buttons at this time.

③ Load a cassette.
- Load it all the way into the cassette holder.

④ Press down to close the cassette holder.
- Press near the DAT mark.
- The tape is automatically loaded into the mechanism and the unit enters the stop mode.

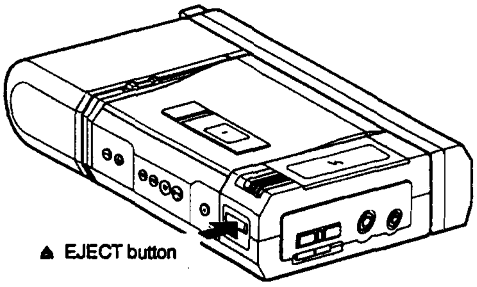
Note:
The cassette holder opens when the ▲ EJECT button is pressed and is closed by pressing it down.
Do not open or close with too much force.
Be careful that your fingers do not get caught when closing the door.



Insert a cassette with the tape window on top and the edge with the safety tab towards you.

Safety tab for accidental erasure prevention (close it when you want to record)

Unloading the DAT cassette



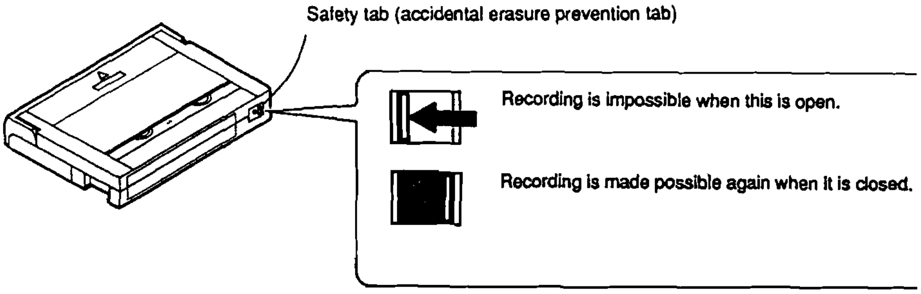
① Switch the power on
② Press the ▲ EJECT button.
③ Unload the cassette.

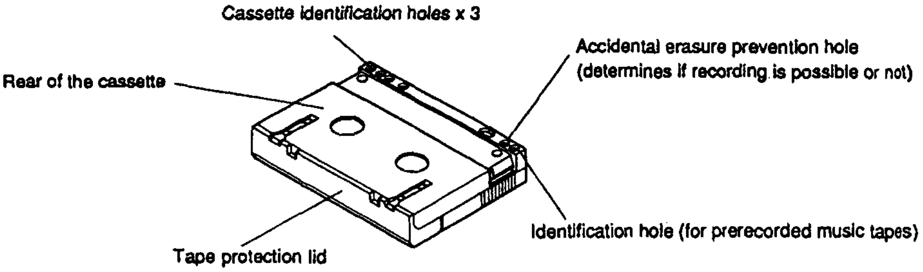
- When a tape on which a recording has previously been made is used for recording, the previously recorded signals will be erased automatically, and the tape will contain only the new recording.
- DAT cassettes have sliding safety tabs to prevent accidental erasure. Be sure to open the tabs of cassettes containing important recordings which you want to protect against accidental erasure.

- DAT cassettes cannot be used upside down.
- DAT cassettes have a lid (cover) to prevent the accumulation of dust or dirt on the surface of the tape. Do not open this forcibly.
- DAT cassette shells are constructed so that the tape cannot be touched by accident.

Concerning DAT cassettes
- Use cassette tapes with the DAT logo shown here.

DAT
Digital Audio Tape


Safety tab (accidental erasure prevention tab)
Recording is impossible when this is open.
Recording is made possible again when it is closed.


Cassette identification holes x 3
Rear of the cassette
Accidental erasure prevention hole (determines if recording is possible or not)
Identification hole (for prerecorded music tapes)
Tape protection lid

Cautions on storage of DAT cassettes

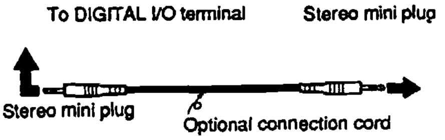
- Do not leave cassettes in a place where they could be exposed to direct sunlight or near a heater, etc.
- Do not leave cassettes in a place where they could be subject to excessive humidity.
- Do not drop cassettes or expose them to excessive vibrations or shocks.
- Do not leave cassettes in a place subject to excessive dust.
- Do not store cassettes where there is a strong magnetic field, such as near a motor, transformer or permanent magnet, etc.
- When not using them, always replace cassettes in their plastic cases.

RECORDING

- Do not switch the power on until all connections are completed.
- Insert the plugs firmly; poor contact can cause noise.

Connections to stereo components for recording

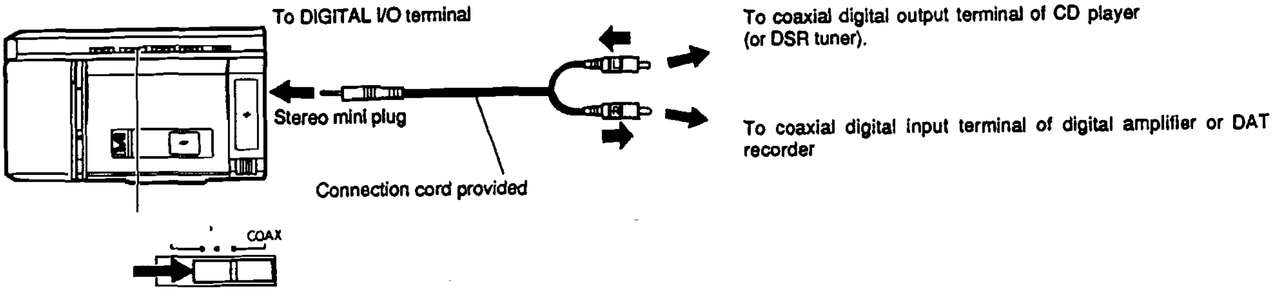
- Digital recording (coaxial connections)


To DIGITAL I/O terminal
Stereo mini plug
Stereo mini plug
Optional connection cord

To coaxial digital output terminal of portable CD player etc.

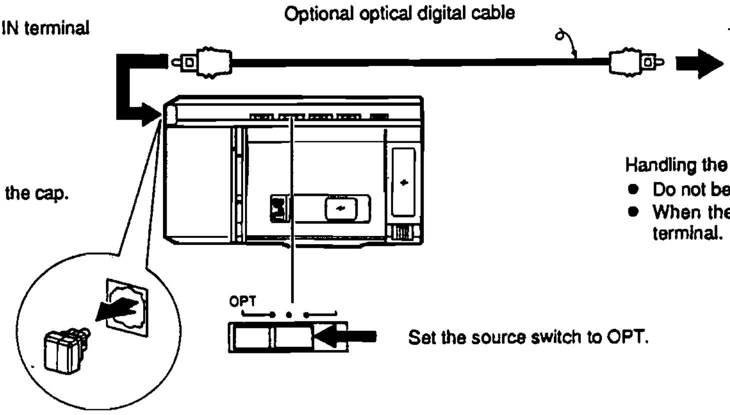
- Digital recording with coaxial connections can be performed without using the A/D converter unit.

Select appropriate pin-plug cords according to the stereo component connected.


To DIGITAL I/O terminal
Stereo mini plug
Connection cord provided
To coaxial digital output terminal of CD player (or DSR tuner).
To coaxial digital input terminal of digital amplifier or DAT recorder
COAX

Set the source switch to COAX.

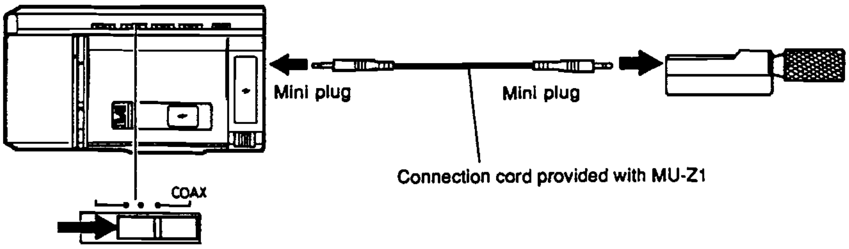
- Digital recording (optical connections)


To OPT IN terminal
Optional optical digital cable
To optical digital output terminal of CD player (or DSR tuner).
Remove the cap.
OPT
Set the source switch to OPT.

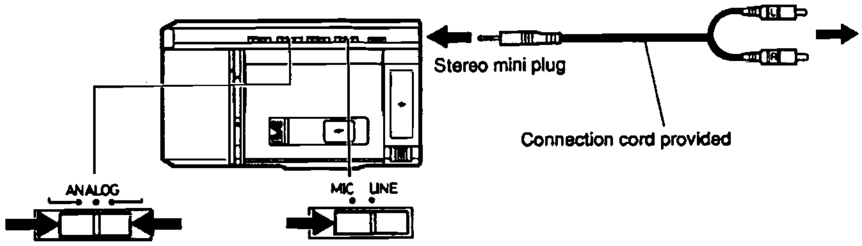
Handling the optical digital cable
- Do not bend the cable excessively.
- When the cable is not used, keep the protection cap in the OPT IN terminal.

Stereo signal transmission
The digital In/out terminal transmits stereo signals (L/R) with a single connection cord.

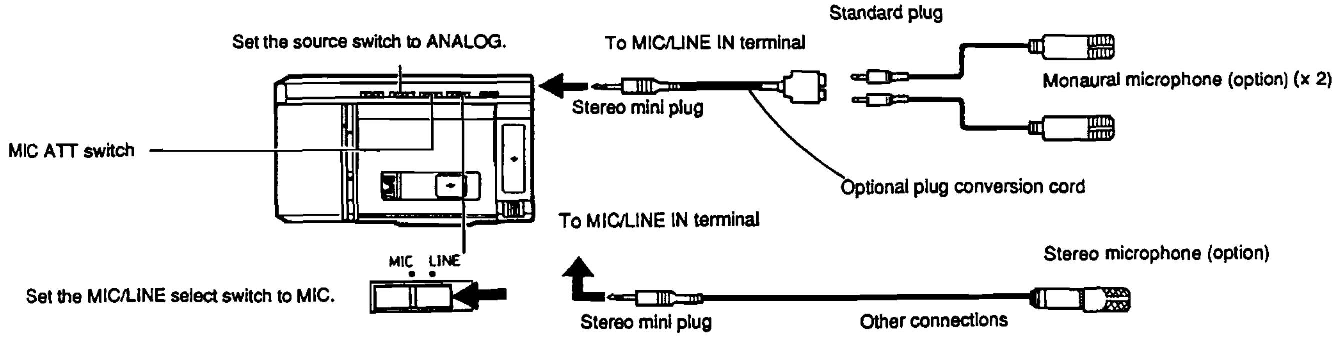
- Recording using digital microphone (coaxial connections)


To DIGITAL I/O terminal
To DIGITAL OUT terminal
Mini plug
Mini plug
Digital microphone MU-Z1
Connection cord provided with MU-Z1
COAX
Set the source switch to COAX.

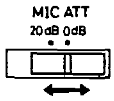
- Analog recording (from line out terminal)


To REC OUT terminal of amp or LINE OUT terminals of CD player.
To MIC/LINE IN terminal
Stereo mini plug
Connection cord provided
ANALOG
MIC LINE
Set the source switch to ANALOG.
Set the MIC/LINE select switch to LINE.

- Analog recording (from microphone)


Set the source switch to ANALOG.
To MIC/LINE IN terminal
Standard plug
Monaural microphone (option) (x 2)
Stereo mini plug
MIC ATT switch
Optional plug conversion cord
To MIC/LINE IN terminal
Stereo microphone (option)
MIC LINE
Set the MIC/LINE select switch to MIC.
Stereo mini plug
Other connections

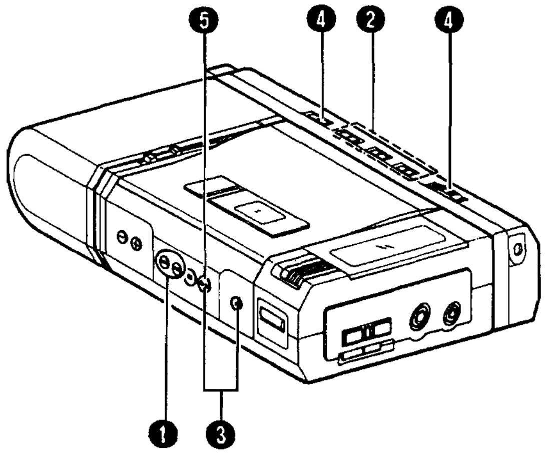
Using the MIC ATT
Normally set to "0 dB". When recording a source signal with a larger input, the sound may be distorted even when the INPUT LEVEL control is turned down. In this case, set to "20 dB".


MIC ATT
20dB 0dB

Note:
Firmly connect the plugs to each unit. Poor connections may cause noise.

Recording

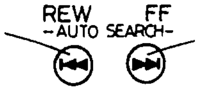
- Switch on the power and insert a DAT cassette. See page 26.
- Set the HOLD switch to off before starting recording.



Puede resultar ilegal grabar o reproducir

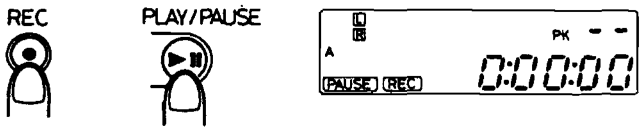
❶ Locate the position where recording should start.

When recording from the beginning of tape.


REW
FF
–AUTO SEARCH–

When recording from the middle of tape (Blank search).

❷ Set to the source to be recorded. See pages 29 to 31.
❸ Set to the record-pause mode by pressing the ►II PLAY/PAUSE button while keeping the ● REC button depressed.

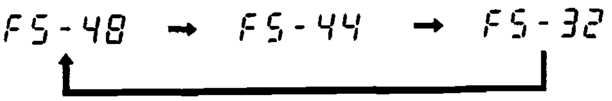

REC
PLAY/PAUSE
PK
A
PAUSE
REC
0:00:00

❹ Set the required recording mode; when analog recording is to be performed, adjust the recording level.

- Record mode

REC MODE switch	Analog recording	Digital recording**
STANDARD	48k/44k/32k mode can be selected.*	32k mode
LONG	32k-LP mode	32k-LP mode

* Each time the ENTER button is pressed in the rec-pause mode, the mode will change as follows: 48k, 44k, 32k to 48k.



Notes:

- It is recommended that you use an outdoor antenna when recording an FM broadcast.
- When the power switch is set to off during recording and then set to on again, the recorder enters the record-pause mode.

Recording level adjustment (only required when an analog signal is to be recorded)

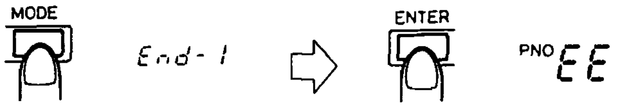
The digital peaks are shown in the display window in the record and record-pause modes.
Adjust the recording level with the INPUT LEVEL control so that the level meter does not exceed the "0 dB" when the signal with the maximum level is input.

When A is shown in the display window, the mode changes can be performed. However, when D is displayed, this is not possible.

** In the 48k and 44k modes, recording is digital regardless of the position of the REC MODE switch.

❺ Press the ►II button to start recording.

- **To stop recording in the middle of tape**



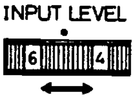
- At the end of recording, press so that "End-I" is displayed.
- Al final de la grabación, presione para que se visualice "End-I".
- *A la fin de l'enregistrement, presser pour que "End-I" soit affiché.*

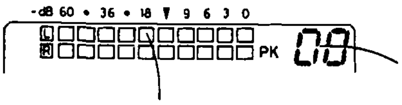
- **When recording digital signals**

Signals are recorded with the level, sampling frequency and emphasis mode set by the source component. They cannot be changed by selecting a different mode with the DAT recorder. See page 38.

- **When recording from the beginning of the tape**

It is recommended to record with no input signal at the beginning of tape (for about 10 seconds).
("TOP" is displayed when the recorder enters the record-pause mode at the beginning of tape.)



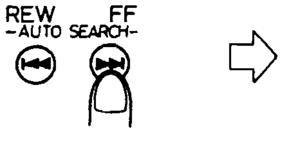


Peak level meter
Values higher than -20 dB will be held for approx. 2 seconds.
The "▼" (-12 dB) is the reference level of the DAT recorder.

Digital peak display
This shows the margin between the maximum input level and the input level of the signal being recorded in 1-dB steps, within a range of 20 dB to 0 dB. When a higher level sound is input than the value being shown, the peak display is updated.

- To check the peak value of digital peak display

Press the ►►I button momentarily during recording.



Press momentarily and release.

The peak value blinks for 2 second.

- When 0 dB is exceeded.....
  The digital peak display shows "pk OV" (over-level display). When the over-level display is shown continuously, the recorded sound will be distorted; turn down the recording level.

- To check the program number of the tune being recorded
  Press the ▶▶| button for a few seconds during recording. Each time it is pressed, the display alternates between the digital peak display and program number.

Important

- Even when the power is set to off during recording, the recording mode is stored in memory to avoid wasting the battery.
  When you stop recording or eject the tape, be sure to press the ■ STOP button to release the recording mode.
- When using a condenser microphone, use one with its own built-in battery.

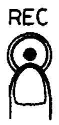
When the record-pause mode continues for more than 5 minutes

- The recorder enters the stop mode automatically; this is to avoid the tape and head wear that occurs when left in the record-pause mode.

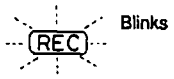
Record muting

This is used to leave an appropriate no-signal recorded section between tunes.

1. To leave a non-recorded section during recording...



Press momentarily and release.



This leaves a no-signal recorded sections.

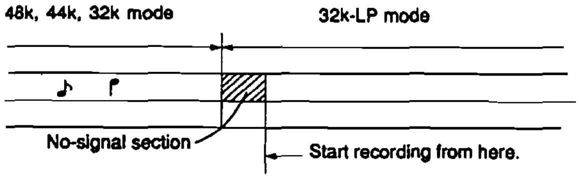
- About 4 seconds later, the REC and PAUSE indicators light and the recorder enters the record-pause mode.

2. Press the ▶II button to start recording again.

- To leave a no-signal recorded section of more than 4 seconds
  Press the ● button continuously as long as you want to leave a no-signal recorded section. When the button is released after being pressed for more than 4 seconds, the recorder enters the record-pause mode.
- A TIME codes will be written continuously even when the record-mute mode is engaged.

- **To make recordings in different recording modes on one tape**
  Be sure to leave a no-signal section before starting recording in the new mode.

Example: To change the recording mode from 48k, 44k, 32k to 32k-LP



❶ Set to the record-pause mode.
❷ Change the recoding mode.
❸ Press the ● button.

- After 4 seconds, the recorder enters the record-pause mode. Press the ▶II button to start recording.

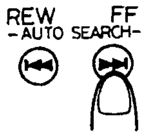
Notes:

When making a recording, if you change the recording mode (48k, 44k, 32k or 32k-LP) in the middle of a tape, be sure to leave a no-signal section using the record-mute function, etc. before starting recording in the new mode. This avoids sound being interrupted because the recording mode was changed.

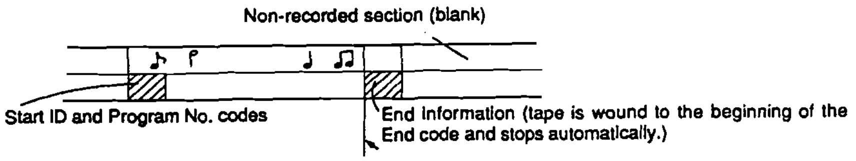
Blank search

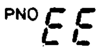
- This is used to locate the point in the middle of a tape where the previous recording ended, so a new recording can be made from that position.

1. Load a cassette and press the ▶▶| button for a few seconds.



2. When the End information is detected, the tape stops automatically.


Non-recorded section (blank)
Start ID and Program No. codes
End information (tape is wound to the beginning of the End code and stops automatically.)



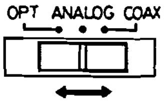
- When End information is not marked, the recorder automatically stops just before the non-recorded section of the tape.
- When an unused tape is used, the recorder enters the fast-forward mode and then the tape is rewound to the beginning of tape after 5 seconds.

- **Non-recorded sections (blank) and no-signal recorded sections**
  In the DAT system, a non-recorded section (blank section) refers to that part of the tape which has not yet been used for recording; this distinguishes it from a no-signal recorded section, which has been used for recording but without a music signal.
  In conventional compact cassette tapes, no-signal sections are left between tunes, however, in DAT cassettes, the track pattern is encoded and A TIME codes and other signals are encoded continuously in the subcode area, even between tunes.

Note:
To make a non-recorded tape, adjust the INPUT LEVEL controls to "0", then start recording. The previously recorded signal will be erased. New A TIME codes will be written to the tape.

Digital recording

1. Set the source switch to COAX or OPT.



- When the source sound for recording is input

D-IN indicator	Digital signal is input or not
Blinks slowly	Not input
Lights	Input (recording is possible)

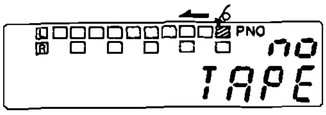
2. When the ▶II button is pressed in the record-pause mode
   - When the D-IN indicator lights, digital recording is possible.

Note:
When the sampling frequency changes during recording, the recorder enters the record-pause mode momentarily then recording is resumed.

Display window

This recorder incorporates an auto power-off function; if no operations are performed for 5 minutes after switching on the recorder, the power is automatically switched off. The display window can be checked in this condition.

Go out one by one every 30 sec.

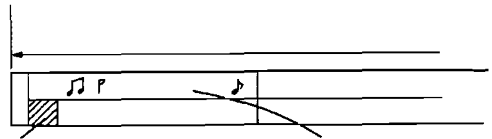


Cancelling recording

- Use the ⏮ button when rerecording is required during recording. In this case, the operations depends on how many Start ID code have been marked.

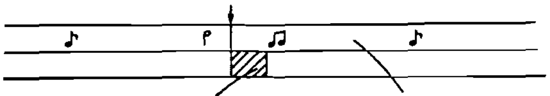
- Rerecording is required when the first tune is being recorded.

The tape is rewound to the point at which recording started and the recorder enters the record-pause mode.


Start ID and Program No. codes
1st tune

- Rerecording is required when two or more tunes have been recorded.

The tape is rewound to the beginning of the tune being recorded and the recorder enters the record-pause mode.


Start ID and Program No. codes
Tune being recorded

Press momentarily and release.

SUBCODE MARKING

Marking subcodes during recording — select the subcode processing mode using the MODE button —

- **Subcode processing mode selection**

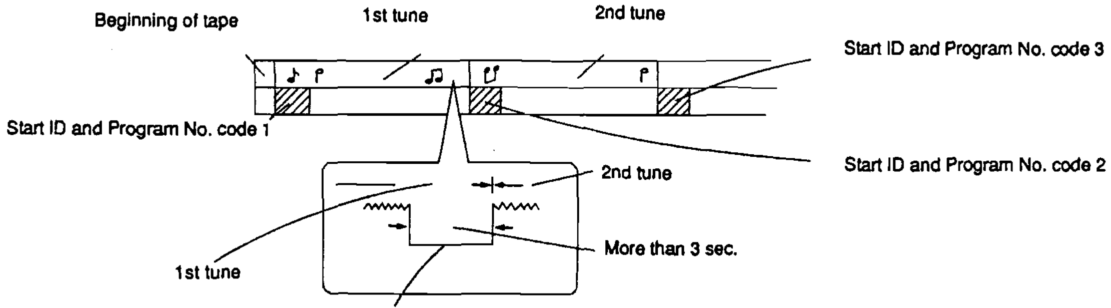
AudiO	A Start ID code is marked automatically when the audio signal level rises above a certain level.
dATA	A Start ID code is marked automatically according to information from the digital audio interface.
MAnuL	Start ID codes are marked manually in this mode, not automatically.
End-1	In this mode, the End Information is marked manually.

The Start ID code and End Information are marked in different subcode processing modes.

The subcode processing mode can be selected during recording or in the record-pause mode.

Automatic Start ID and Program No. code marking
When recording is started from the beginning of tape, the Start ID and Program No. codes will be marked automatically.

Example: When "AudiO" is selected (this is the initial setting when analog recording is performed.)


Beginning of tape
1st tune
2nd tune
Start ID and Program No. code 3
Start ID and Program No. code 1
Start ID and Program No. code 2
2nd tune
More than 3 sec.
1st tune

Below a certain level (almost no-signal level)

- When the signal drops below a certain level for more than 3 seconds between tunes, the next Start ID and Program No. codes are marked automatically.
- "dATA" is set initially when performing digital recording. When the Q code is transmitted from a CD player, etc., the Start ID code is marked automatically.)

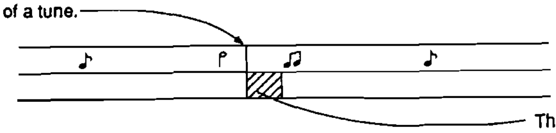
Note:
When a very quiet sound (such as a pianissimo passage) continues for a relatively long time, Start ID and Program No. codes might be marked erroneously, even in the middle of tune.

Manually marking Start ID and Program No. codes
The Start ID and Program No. codes are marked by pressing the ENTER button during recording when the gap between tunes is less than 3 seconds or there is no gap. (Except End-I mode.)

Example: When the "MAnuL" mode is selected

- With this operation, manual marking is possible anywhere you want Start ID and Program No. codes.
- When recording is to start from the middle of the tape, first rewind the tape to read the Program No. codes which have already been marked so that new Program No. codes will be marked correctly.

Note:
Another Start ID code cannot be marked for 9 seconds after automatic or manual marking has been started. (When recording in the 32K-LP mode, this period becomes 18 seconds.)


Press the ENTER button at the beginning of a tune.

The Start ID and Program No. codes will be marked.

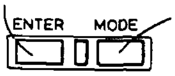
Marking subcodes after music has been recorded

- **Outline of operations**
  When recording is completed, subcodes can be marked by the following procedure.

1. First play back the recorded tape and check that Start ID codes have been marked correctly at the beginning of each tune.
2. Delete unnecessary subcodes.
3. Insert additional Start ID codes at the beginnings of any required tunes.
4. Mark Start ID codes according to the Program No. (renumbering) code.
5. Mark Skip ID codes at the start of each commercial, etc.

- **Subcode processing mode selection**
  Subcode processing is performed according to the mode selected.

Mode selection for subcode processing can be performed during the rerecording of subcodes.



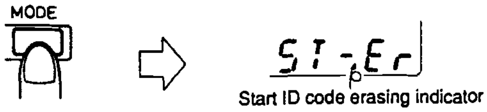
OFF
St-In: Start ID code marking mode.
St-Er: Start ID code erasing mode.
SP-In: Skip ID code marking mode.
SP-Er: Skip ID code erasing mode.
End-I: End information marking mode.
End-E: End information erasing mode.
RENUM: Program No. code renumbering mode.

(These modes can be selected during the play or stop mode.)

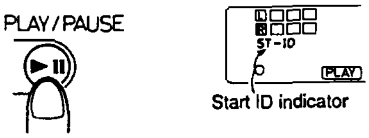
Notes:
- Marking subcodes is impossible when the safety tab (accidental erasure prevention tab) is open. Check that the safety tab is closed if you want to mark subcodes after recording.
- When the power is switched off, the subcode rerecording mode is set to "OFF".

Deleting Start ID (Program No.) codes

1. Select the Start ID code erasing mode using the MODE button.
2. Play back the tape and search for an unnecessary Start ID code.

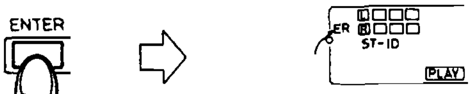


Start ID code erasing indicator



Start ID indicator

3. Press the ENTER button.



Erase indicator

The tape is rewound to the beginning of the unnecessary Start ID code and erasing is performed.

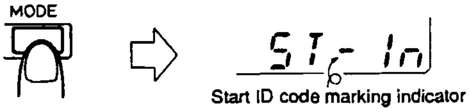
4. When an unnecessary Start ID code has been erased, the tape stops automatically.
   - The Program No. code is also erased at the same time if it has been marked with the Start ID code.

- Repeat steps (2) and (3) to erase further unnecessary Start ID codes.

Marking Start ID codes

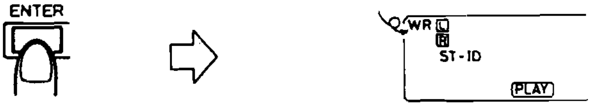
- This is used to mark Start ID codes at the beginning of required tunes.

1. Select the Start ID code marking mode using the MODE button.
2. Play back the tape and search for the position where a Start ID code should be marked.
3. Press the ENTER button.



Start ID code marking indicator

Marking indicator



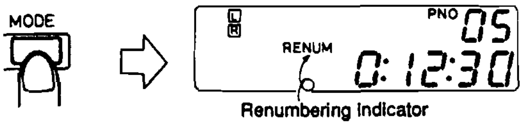
When marking is completed, the WR and ST-ID indicators go out.

- Repeat steps (2) and (3) to mark required Start ID codes.

Marking new Program No. codes (Renumbering)

- Renumber the Program No. codes to match the new Start ID codes.

1. Select the Program No. renumbering mode using the MODE button.



Renumbering indicator

2. Press the ENTER button.
   - The tape is rewound to its beginning and the recorder enters the fast-forward mode. When Start ID codes are detected, the Program numbers are renumbered in sequence starting from 1.
3. When the end of the tape is reached, the renumbering is completed and tape is rewound to its beginning and stops automatically.
   - When the End information is detected, the recorder stops at the beginning of the End information.

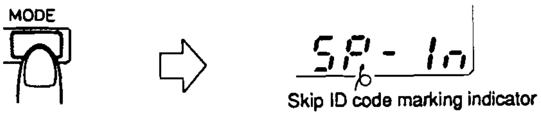
Notes:

- Be sure to leave a gap of at least 18 seconds between Start ID codes (36 seconds in the 32k-LP mode).
- While a Start ID code is being marked, sound may be skipped at the beginning and the end of the Start ID code; this is not malfunction.

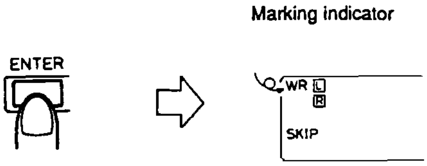
Marking Skip ID codes (Manual)

It is convenient to mark Skip ID codes during playback to skip commercials, spoken introductions, etc.

1. Play back the tape and locate the position from which you want to skip.
- Check the A TIME at which the commercial, etc. begins and stop the tape there.
2. Select the Skip ID code marking mode using the MODE button.

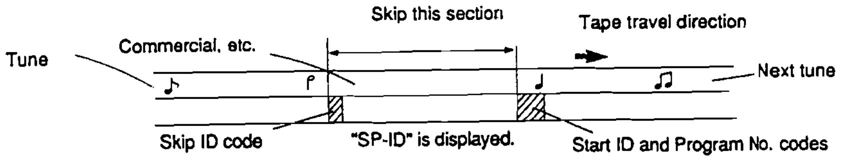

MODE
SP- In
Skip ID code marking indicator

3. Press the ENTER button. When the Skip ID code is marked, the tape stops automatically.


Marking indicator
ENTER
WR
SKIP

Skip ID code is marked.

- When playing back a section where a Skip ID code has been marked.

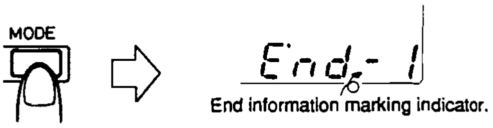

Skip this section
Tape travel direction
Commercial, etc.
Tune
Next tune
Skip ID code
"SP-ID" is displayed.
Start ID and Program No. codes

- Erasing Skip ID codes
1. Select the Skip ID code erasing mode using the MODE button.
2. Detect the Skip ID code during playback, stop the tape when the fast forward mode is engaged.
3. Press the ENTER button. The tape is rewound to erase the Skip ID code and then stops automatically.

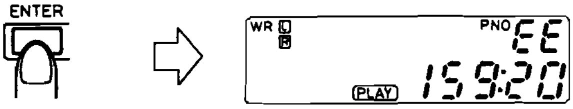
Stop the tape where A TIME code marking is not interrupted.

Marking the End information

- When recording finishes in the middle of tape, End information can be marked during subcode recording.
1. Play back the tape and stop at the end of tune.
2. Select the End information marking mode using the MODE button.


MODE
End- I
End information marking indicator.

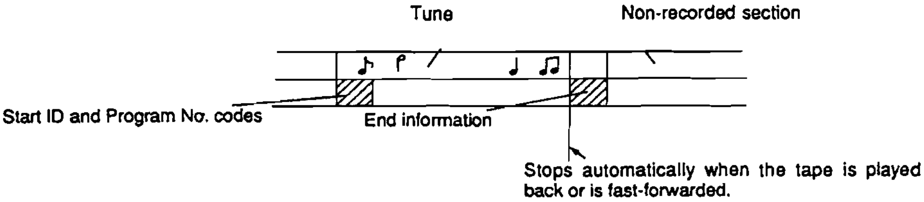
3. Press the ENTER button.


ENTER
WR
PNO EE
PLAY 15 9:20

4. When the End information has been marked, the tape is rewound to the beginning of the End information and stops there automatically.

- Erasing End information
1. Press the MODE button so that "End-E" is displayed.
2. Press the ►II button to detect the End information.
3. Press the ENTER button. The tape is fast forwarded to erase the End information and then stops automatically.

Note:
The End information will be erased when a new recording is performed over the End information.

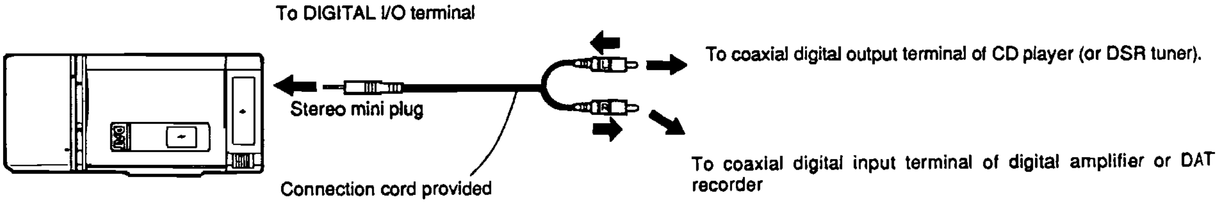

Tune
Non-recorded section
Start ID and Program No. codes
End information
Stops automatically when the tape is played back or is fast-forwarded.

PLAYBACK

- Do not switch the power on until all connections are completed.

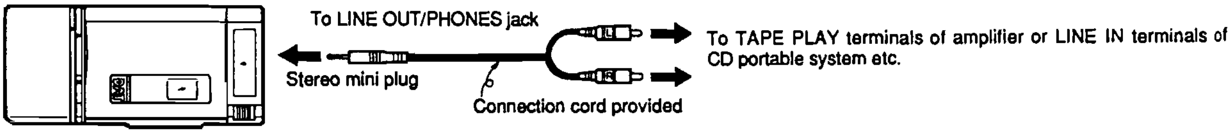
Connections to stereo components for playback

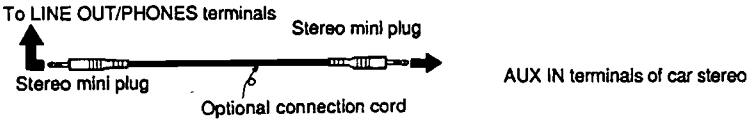
- Digital playback (coaxial connections)


To DIGITAL I/O terminal
Stereo mini plug
Connection cord provided
To coaxial digital output terminal of CD player (or DSR tuner).
To coaxial digital input terminal of digital amplifier or DAT recorder

Volume control
When performing digital playback, the level recorded on the tape is output as it is. Pressing the VOLUME button does not effect the output level.

- Analog playback (analog connections)


To LINE OUT/PHONES jack
Stereo mini plug
Connection cord provided
To TAPE PLAY terminals of amplifier or LINE IN terminals of CD portable system etc.


To LINE OUT/PHONES terminals
Stereo mini plug
Stereo mini plug
Optional connection cord
AUX IN terminals of car stereo

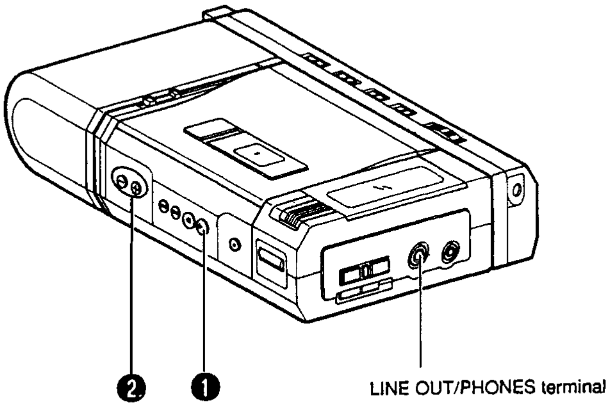
Volume control
Set the volume of the recorder to "VOL 40" using the VOLUME buttons and use the amplifier's control for further adjustment.

- **To listen through headphones**
Connect stereo headphones with a mini plug (available from any audio store) to the LINE OUT/PHONES terminal. (When using the wired remote control, connect to the PHONES terminal of the wired remote control.)

- **When using the wired remote control**
The PHONES terminal of the wired remote control can be used as an analog connection jack.

Playback

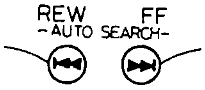
- Switch on the power and insert a DAT cassette. See page 26.
- Set the HOLD switch to off before starting playback.



1. Press the ►❚❚ button to start playback.
2. Control the volume as required. (Analog playback only)

- **To stop playback in the middle of a tape...**
  Press the ■ STOP button. When the ▲ EJECT button is pressed, the tape stops running and the cassette holder will open.
- **When a tape is played back to its end...**
  The auto rewind function rewinds the tape to its start at which point it stops automatically.
- **When a tape recorded in the 32k-LP mode is played back, LP is shown in the display window.**

- **To fast-forward or rewind the tape while listening to the sound ...**
  Cueing or reviewing can be performed when one of these button is pressed.



To review to a tune in the reverse direction (review function)

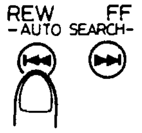
To cue to a tune in the forward direction (cue function)

Notes:
1. When a new tape is played back, the tape is rewound after approx. 10 seconds and stops automatically.
2. When the End information is marked while the tape is being played back or fast-forwarded, the tape stops automatically. Press the ⏮ button to rewind the tape.

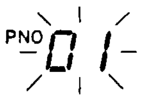
To locate the beginning of a tune using its Start ID code

- When a tape on which Start ID codes are marked is used, the start of any tune can be located easily.
  Press the ⏭ / ⏮ button momentarily while the tape is being played or is stopped.

- **To locate the start of a previous tune**
- **Para localizar el comienzo de la canción previa**
- **Pour localiser le début d'un morceau précédent**



Press momentarily.



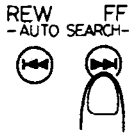
The indicator blinks.

When pressed twice, the tape is rewound by two Start ID codes; this includes the current tune, so it rewinds to the start of the tune before the one being played.

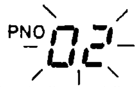
Each time this is pressed, the tape is rewound by one Start ID code.

⇩

When the Start ID code of the specified tune is detected, playback starts.



Press momentarily.



The indicator blinks.

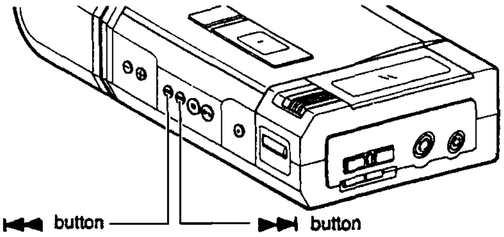
When pressed twice, the tape is fast forwarded by two Start ID codes.

Each time this is pressed, the tape is fast forwarded by one Start ID code.

⇩

When the Start ID code of the specified tune is detected, playback starts.

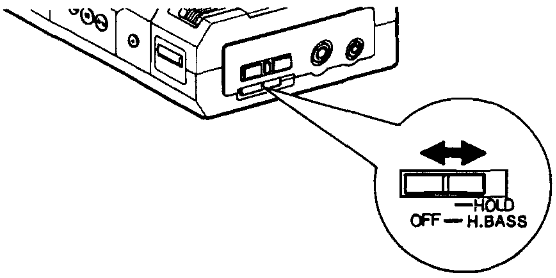
- The level meter indicates the direction of tape travel.


⏮ button
⏭ button

Notes:

- The recorder cannot locate tunes when Start ID codes are not marked.
- The tape stops automatically when the End information is detected.
- When the ⏭ (or ⏮) button is pressed gently the tape is fast forwarded (or rewound) while the tape is stopped. In this case, the tune number indicator counts up (or down) each time a Start ID code is detected.

- **How to use the Hyper-Bass Sound (H. BASS) switch**
  - Low frequencies will be enhanced.


HOLD
OFF — H.BASS

THINGS YOU SHOULD KNOW

How to use the wired remote control (CD synchro-start recording)

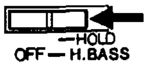
- In CD synchro-start recording, the recorder starts recording synchronized with the CD player.

Connections

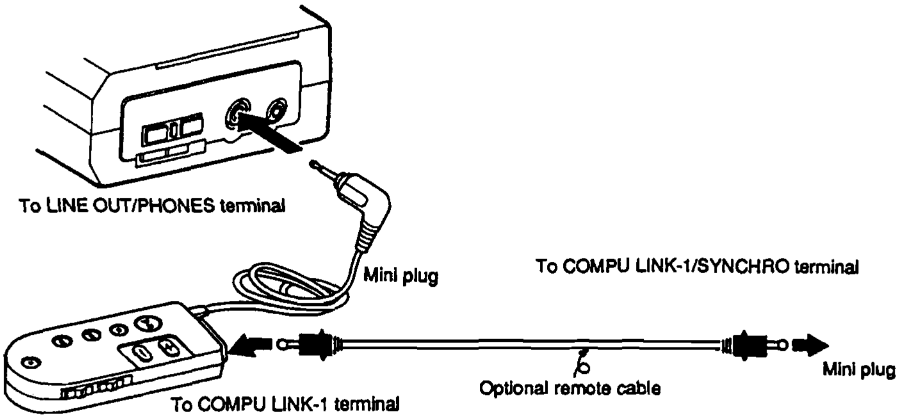
① Select an input signal with either digital or analog connection. See pages 29 to 31.
② Connect the wired remote control and remote control.

Usage

① First set to OFF.
② To boost low frequencies, set to H. BASS.
③ Set to OFF after use.
  - There are two OFF positions. Be sure to set to the position shown.


HOLD
OFF — H.BASS

Note:
This switch has two uses and is used as either a HOLD or H. BASS switch. When it is set to H. BASS, the recorder enters the hold mode; the each operation mode is locked and other modes cannot be engaged.


To LINE OUT/PHONES terminal
Mini plug
To COMPU LINK-1/SYNCHRO terminal
Optional remote cable
Mini plug
To COMPU LINK-1 terminal

CD synchro-start recording

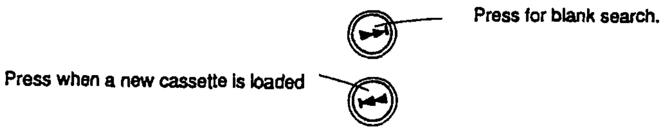
① Load a cassette and locate the position where recording is to start.

② Press the ►II button while the ● button is depressed to enter the record-pause mode.

- Be sure to start CD synchro-start recording from the stop mode.

③ Press the play button of the CD player.

- CD synchro-start recording will start.



- When the CD player stops at the end of the disc, the DAT recorder will stop automatically, and vice verse.

Notes:

- Set the KEY HOLD and REC PROTECT switches of the wired remote control to OFF before starting these operations.
- Be careful; CD synchro-start recording cannot be started from the stop mode. Be sure to start CD synchro-start recording from the record-pause mode by pressing the ►II button while the ● button is depressed.
- When performing CD synchro-start recording with the digital connection, connect the output terminal (analog) of the CD player to the MIC/LINE IN terminal of the recorder.
- CD synchro-start recording can be performed only with a JVC CD player with a COMPU LINK-1/SYNCHRO terminal.

TROUBLESHOOTING

What appears to be a malfunction may not always be serious. Make sure first..

1. **Recorder does not function when any buttons are pressed.**
   - * Is the recorder in the hold mode?
   - * Is the rechargeable battery exhausted? (Does the (▭) indicator blink in the display window?)
   - * Have no button operations been performed in more than 5 minutes since the power was switched ON? (Auto power-off function)
2. **Tape does not run.**
   - * Is the recorder set to the pause mode?
   - * Is the PAUSE indicator lit?
   - * Has the tape been completely rewound to the end ?
3. **Tape runs but no sound can be heard.**
   - * Is the VOLUME set to minimum?
   - * Is the head dirty or clogged?
4. **Recording is impossible.**
   - * Is the safety tab of the cassette open?
   - * Does the position of input select switch correspond to the source to be recorded?
5. **"D-IN" blinks in the display window and recording is impossible.**
   - * Is a digital input signal transmitted to this unit?
6. **No sound can be heard after recording.**
   - * Is the INPUT LEVEL control turned down with analog connection?
7. **The "💧" (condensation) indicator blinks in the display window and operations are not performed.**
   - * Has condensation occurred?
8. **Start ID and Program No. codes cannot be rerecorded.**
   - * Is the safety tab of the cassette open?
9. **The start of a tune cannot be located.**
   - * Are Start ID codes marked?
   - * Have one Start ID code and the subsequent Start ID code been marked within 18 seconds (36 seconds in the 32k-LP mode)?
10. **A. TIME is not marked.**
    - * Has recording been performed from the middle (blank section) of tape?
11. **Tape stops in the middle of tape even when the ►II button is pressed?**
    - * If a new tape is used, this is not malfunction.

- If the recorder or tape malfunctions, recording may not be performed correctly.
- We recommend that you make a test recording before making an important recording.

Removal of Main Parts

■ Cassette Door & Upper cover

1. Connect the rechargeable battery main unit.
2. Remove two screws (0) retaining the door cover..
3. Press the EJECT button to eject the cassette mechanism section .
4. Remove the cassette door from the unit .
5. Remove two screws (1) retaining the upper cover from the unit .

■ Bottom cover(Fig. 1 , 2)

※ Follow the procedure below after detaching the rechargeable .

1. Remove one screw (4) retaining the right side unit.
2. Remove one screw (2) retaining the unit .
3. Remove three screw (3) retaining the unit(At this time the HOLD/S. BASS knob becomes free from the main knob) .

■ Main P.C. Board assembly (Fig. 3)

1. Remove the bottom cover from the unit .
2. Release six flexible wires from the connectors on the main P.C. board .
3. Remove three screws (5)retaining the main P.C. board from the unit .
4. Unsolder the soldering of power supply wires ,at the terminal plate sides .
5. Raise the main P.C. board by holding its supply terminal side .
6. Remove the sub P.C. board from the main P.C. board.
7. Remove the flexble wire coming from the mechanism assembly .

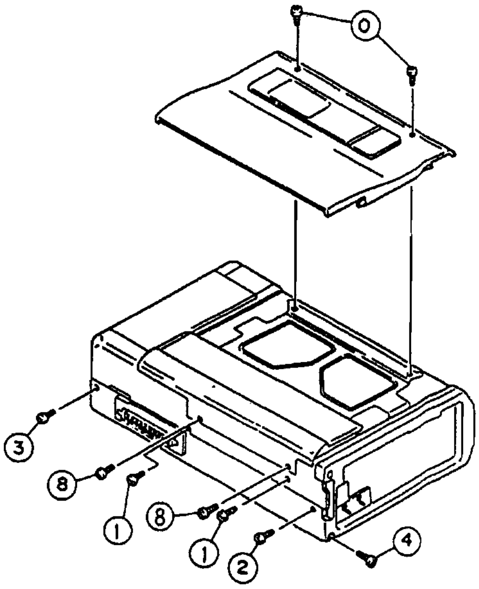


Fig. 1

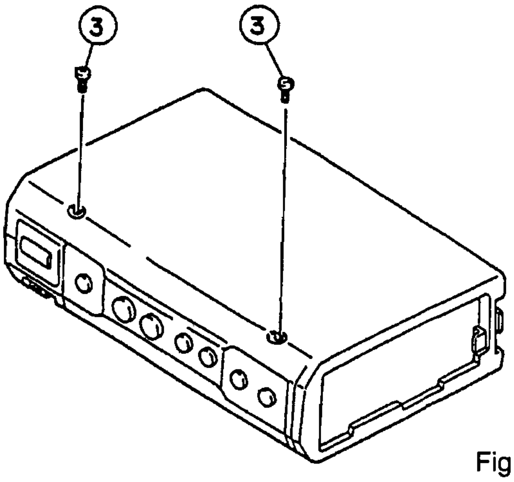


Fig. 2

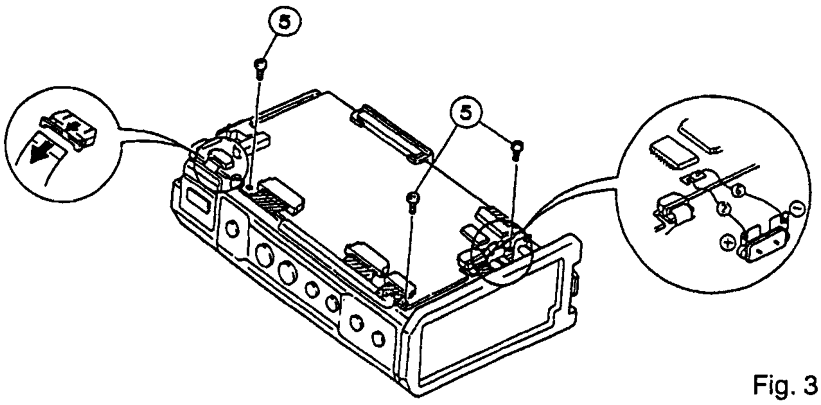


Fig. 3

■ LCD P.C. board assembly with EJECT switch(Fig. 4)

1. Remove the main P.C. board assembly from unit.
2. Remove three screws (6) retaining the LCD P.C. board. .

■ Mechanism assembly (Fig. 1,4)

1. Remove the main P.C. board assembly from the unit .
2. Remove two screws (8)retaining the upper cover(refer to Fig. 1) .
3. Remove two screws (7)retaining the unit .

■ Operation button cover

1. Do the mechanusm assembly to the EJECT state.
2. Remove two screws (18) retaing the button cover from the both sides unit .

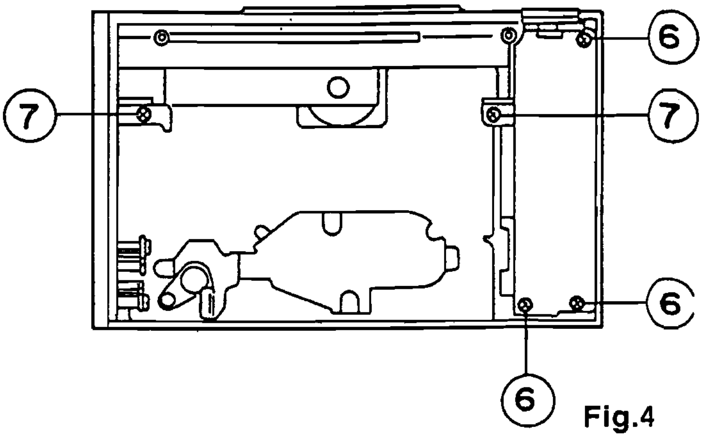


Fig.4

■ Mechanism Sections(Refer also to the mechanism disassembly drawing diagram)

1. After disassembling the mechanism section to each mechanism unit , dismount(Remove)the respective major parts .
2. In this case , be sure to set the cassette loading unit to the (Un lode) state prior to disassembling the mechanism section into each mechanism unit .

■ Mounting and Dismounting of Sub deck

1. Remove the torsion spring .
2. Remove the four disc screws .
3. The sub deck can be dismounted .Assembly of the sub deck should be performed according to the steps 3 – 1~3 – 7 in the diagram on the right hand side .
4. Fix the disc screw A .
5. Confirm that the stud in 3 – 6 is inserted into the groove . If not, press the portion of the arrow mark B . Then , the study can be moved and inserted .
6. Next , fix the screw C , and successively confirm assembly . Then , fix the respective screws .

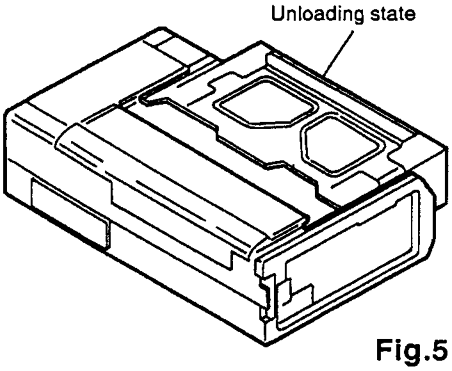
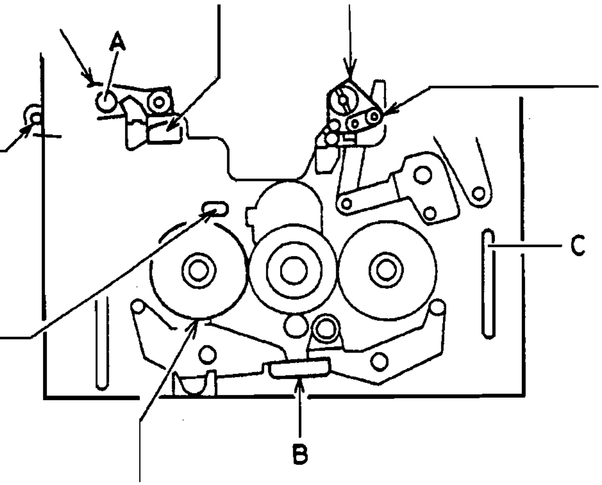


Fig.5



3 – 2
The inclined post L should be inserted into the hole.

3 – 1
Assemle the main deck and sub deck under the conditions wherein the T.arm SA has been turned in arrow direction.

3 – 3
The P. base (T) unit should be assembled under the condition as indicated in the diagram.

3 – 7
The boss on the back surface should be inserted into the groove of the P.B.guide(2).

3 – 4
The study on the back surface should be inserted into the groove of the TENS arm guide.

3 – 5
The SD arm assembly shaft should be inserted into this hole.

3 – 6
The stud on the back surface should be inserted into the groove of the cam lever assembly .

Fig.6

■ RF P.C. board

1. From the connector remove the flexible wire outgoing from the dram .
2. Remove the two screws(127) from the main deck assembly .

■ Mounting and dismounting of drum head

1. By removing the one screw (130),dismount the cleaning roller assembly (128) as indicated in the disassembly diagram .

■ 2. From the connector, remove (disconnect) the flexible wire to the RF P.C. board .

■ 3. After removing the three screws (4),remove the flange by carefully pick it up with tweezers .

4. To assemble the drum head ,set the head with the screws after pressing the protruded guide inplace .

■ Mounting and dismounting of loading motor (18)

1. Remove two screws (19) as indicated in the assembly drawing .
2. In this case ,be so careful as not to directly touch the dew sensor . Moreover , the power source (3V) to the loading motor should be supplied to the portions "a" and "b" in the diagram on the right hand side .

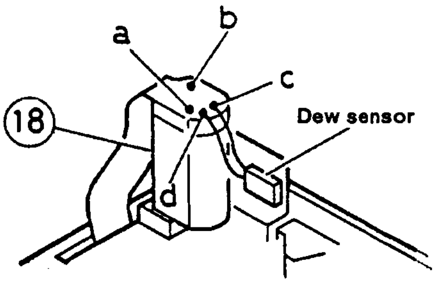


Fig.7

■ Capstan motor (16)

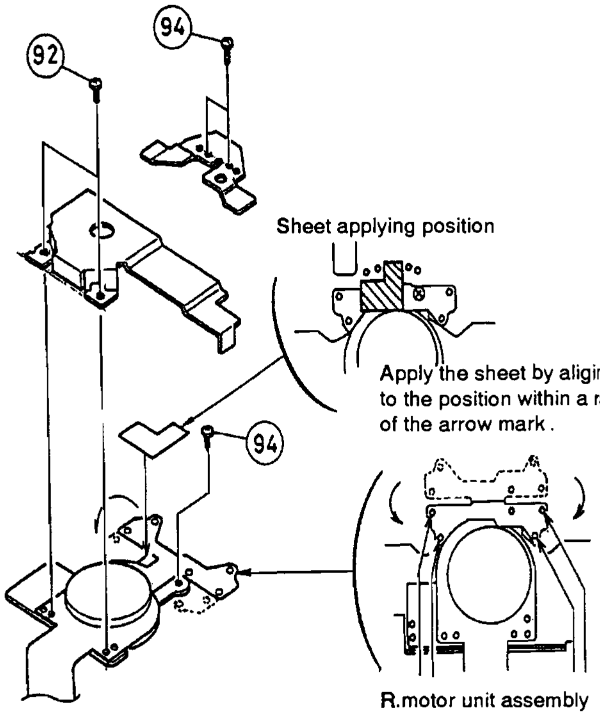
Remove two screws(129) as indicated in disassembly diagram .

■ Reel motor (93)

1. Remove two screws (92) retaining the FPC holder from the reel motor unit .
2. Remove three screws (94) retaining FPC bracket from the reel motor unit .
3. After folding the flexible wire , assemble the reel motor unit by applying sheet as indicated in the diagram .

■ Cam switch (32)

1. Remove two screws (33) and (34). Then ,the cam switch can be dismounted .
2. Assemble the cam switch by aligning it to the gear and cam switch markings in items 2 − 1 ~ 2 − 4 in the diagram .



Sheet applying position

Apply the sheet by aliging it to the position within a range of the arrow mark .

R.motor unit assembly diagram

Fold the flexible wire P.C. board of the R.motor unit, and align the flexible wire hole to the protrusion(protruded point) on the sub deck as indicated in the diagram above.

Fig. 8

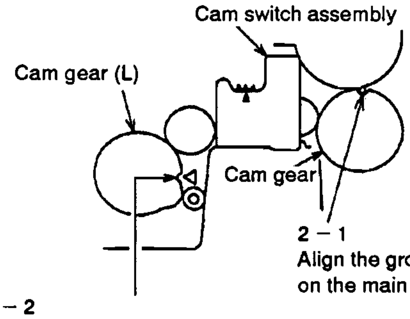


Fig. 9

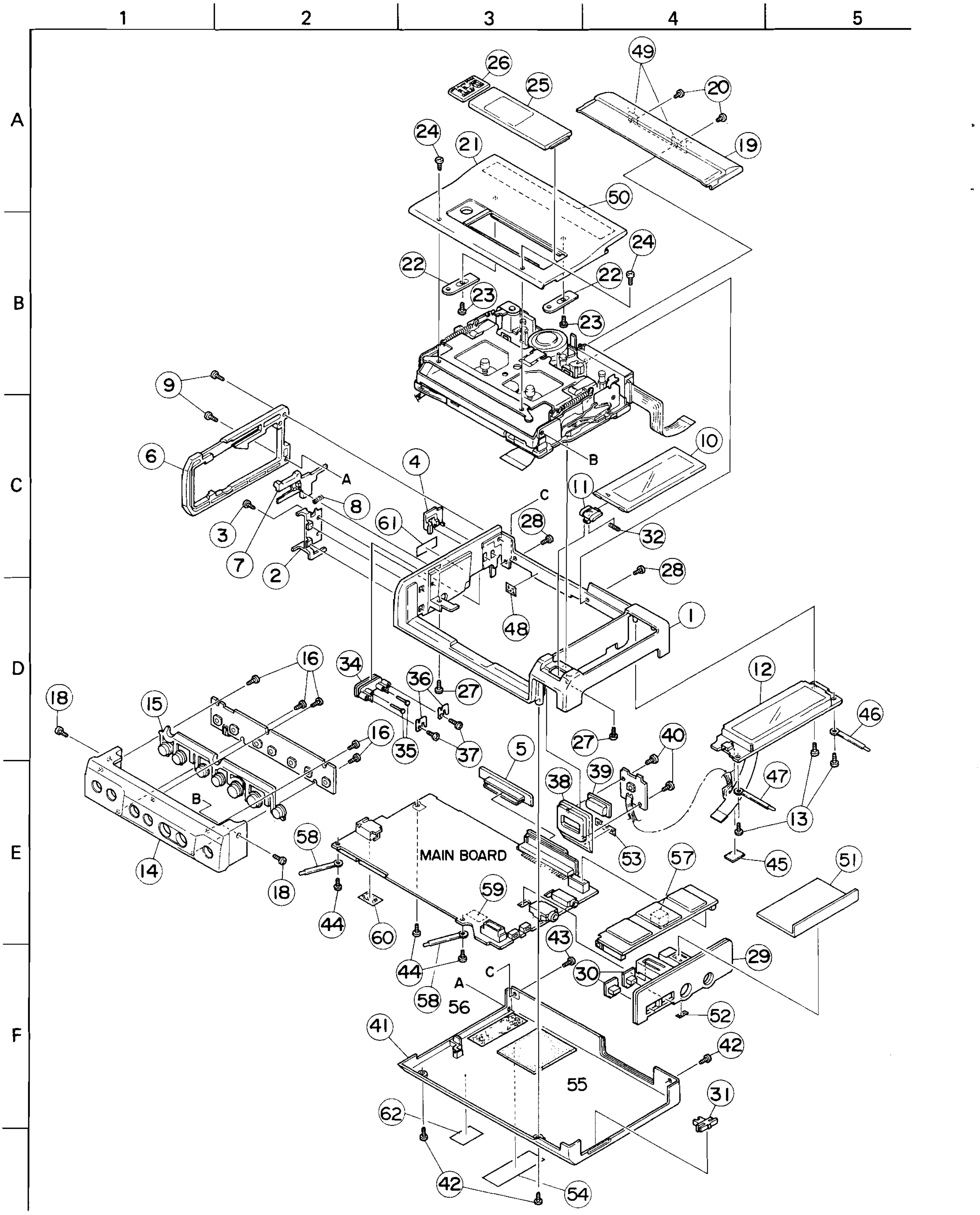
2 − 1
Align the groove of cam gear (R) with the protrusion (protruded point) on the main deck as indicated in the diagram above.

2 − 2
Align the groove of the cam gear(L) to the top of the triangular mark on the main deck as indicated in the diagram above.

2 − 3
Set the cam gears(L) and (R) to the positions indicated in the above diagram and mount the cam switch assembly.

2 − 4
Mount the cam switch assembly by aligning it to the top of the triangular mark on the P.C. board and to the gear mark on the back surface.

Exploded View of Enclosure Assembly and Parts List


1
2
3
4
5
A
B
C
D
E
F
26
25
49
20
24
21
19
50
24
22
22
23
23
9
10
6
A
8
4
B
11
C
61
28
32
3
7
2
28
48
1
16
34
18
15
36
27
12
46
16
35
37
5
40
27
39
47
38
13
B
14
58
MAIN BOARD
57
51
53
45
18
59
44
60
43
29
44
30
C
A
58
56
52
41
42
55
31
62
42
54

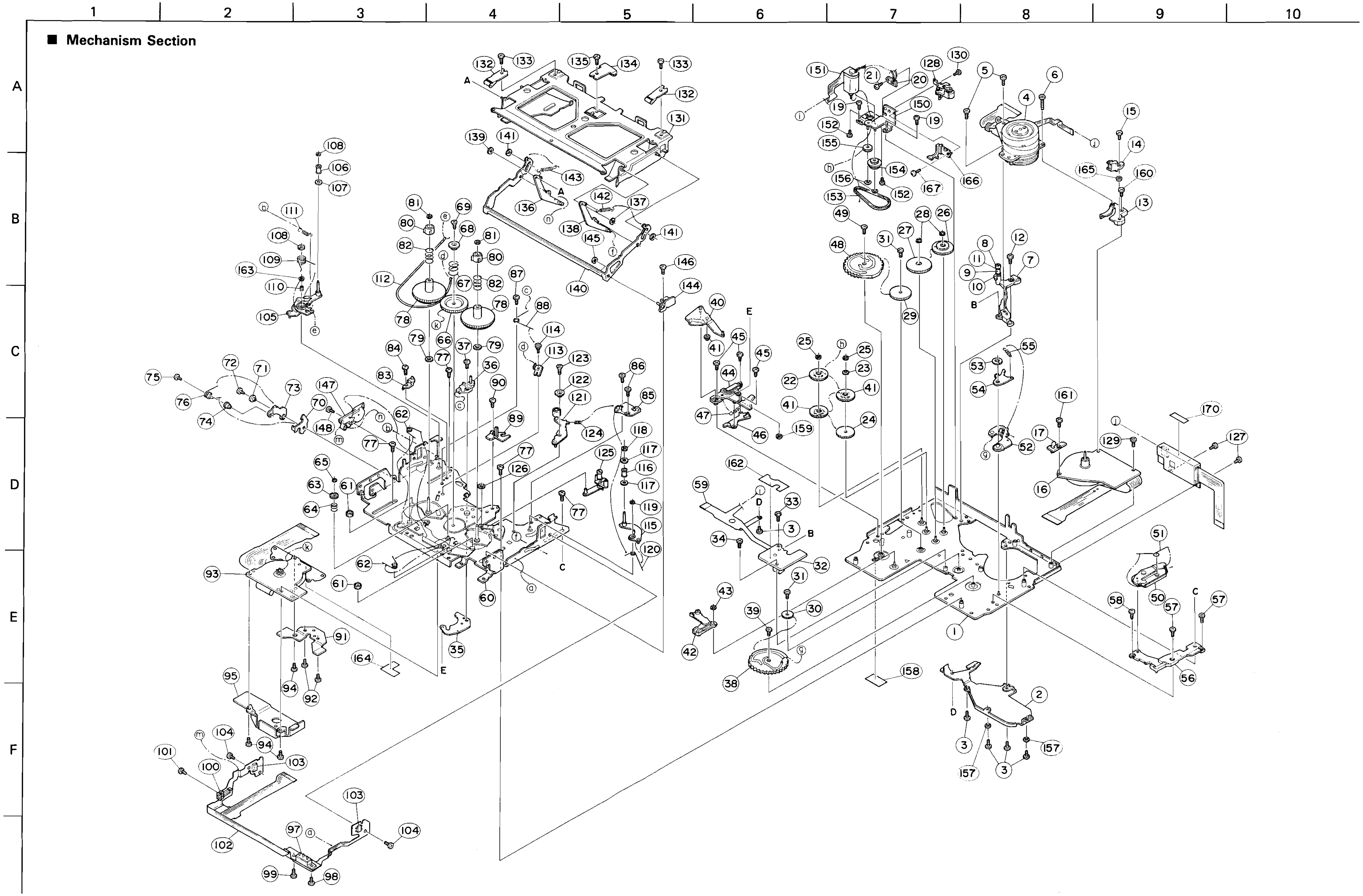
Enclosure Assembly Parts List

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	VJC1044-002	MAIN CASE		1
	2	VJC3238-001	HOLDER (F)		1
	4	VJC3239-001	HOLDER (B)		1
	5	VJC3234-001	CAP	A/D SOCKET	1
	6	VJD3903-001	DECORATION COVR		1
	7	VXS4393-001	RELEASE KNOB		1
	8	VKW3001-294	COMPRESSION SPR		1
	9	VKZ4539-021	MINI TAP SCREW	M.CASE+DECORATI	2
	10	VJD5374-002	LCD LENS		1
	11	VXS4387-003	SLIDE KNOB (P)		1
	12	VGL1114-002	LCD ASSY	LCD01	1
	13	VKZ4539-001	MINI TAP SCREW	LCD PWB	3
	14	VJC2450-003	FRONT COVER		1
	15	VXP3484-001	PUSH BUTTON ASY		1
	16	VKZ4539-001	MINI TAP SCREW	SW PWB+FRONT CO	5
	18	VKZ4616-002	SCREW	FRONT COVER+MEC	2
	19	VJC2445-002	HEAD COVER		1
	20	VKZ4616-001	SCREW	HEAD COVER+MECH	2
	21	VJC2446-001	DOOR COVER	XD-P1	1
		VJC2446-002	DOOR COVER	XD-P1PRO	1
	22	VKL7154-001	LOCK PLATE		2
	23	SPSN1725N	MINI SCREW	DOOR COVER+LOCK	2
	24	VKZ4616-001	SCREW	DOOR COVER+M.HO	2
	25	VJD5394-002	DOOR LENS	XD-P1	1
		VJD5394-003	DOOR LENS	XD-P1PRO	1
	26	VJD5395-001	DAT MARK		1
	27	SPSH1725N	SCREW	M.CASE+MECHA	2
	28	VKZ4616-001	SCREW	M.CASE+MECHA	2
	29	VJD3906-003	JACK ESCUTCHION		1
	30	VXP5071-001	PUSU KNOB (S)	SUB CORD SW	2
	31	VXS4383-002	SLIDE KNOB (P)	KEY HOLDER	1
	32	VKW3001-295	COMPRESSION SPR	SLIDE KNOB(P)	1
	34	VJD5379-002	POWER TERMINAL	POWER TARMINAL	1
	35	VKH5570-001	CONECTOR PIN		2
	36	VKL7142-001	POWER TERMINAL		2
	37	SPSN1735N	MINI SCREW		2
	38	VJD5396-001	BUTTON ESCUTCH.		1
	39	VXP5104-001	PUSH BUTTON(E)		1
	40	SDSF2004Z	SCREW	ESCUTCHONE+PWB	2
	41	VJG1043-002	BOTTOM COVER	XD-P1	1
		VJG1043-004	BOTTOM COVER	XD-P1PRO	1
	42	VKZ4539-021	MINI TAP SCREW	MAIN CASE+BOTTO	2
	43	VKZ4616-001	SCREW	MAIN CASE+BOTTO	2
	44	SPSN1730N	MINI SCREW	MAIN PWB+MECHA	2
		SPSN1730N	MINI SCREW	MAIN PWB+MECHA	1
	45	VYSR102-054	SPACER	LCD PWB	1
	46	VMZ0117-002	WIRE ASS'Y	EARTH FOR DIGIT	1
	47	VMZ0117-001	WIRE ASS'Y	XD-P1PRO ONLY	1
	48	VYSR107-010	SPACER	MAIN PWB	1
	49	VYSS1R1-086	SPACER	HEAD COVER	2
	50	VYSS1R1-085	SPACER		1
	51	VMA4573-001	SHIELD	XD-P1PRO ONLY	1
	52	VYSS1R3-047	SPACER		1
	53	VYSS1R6-008	SPACER	ESCUTCHONE(E)	1
	54	E407097-001	HYATT L LABEL	XD-P1PRO J ONLY	1
	55	VYSS1R1-084	SPACER		1
	56	VYTR435-003	SPACER		1
	57	VYSR109-004	SPACER	COB PWB	1
	58	VMZ0117-001	WIRE ASS'Y	EARTH FOR HP,DC	2
	59	VYSS1R1-083	SPACER	HP WIRE	1
	60	VYSA1R4-085	SPACER		1
	61	VPZ4011-003	SERIAL LABEL		1
	62	VND4037-002	F MARK LABEL	XD-P1PRO G ONLY	1

Exploded View of Mechanism Assembly and Parts List

■ Mechanism Section


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
A
B
C
D
E

■ DAT Mechanism Parts List

BLOCK NO. M2MM□□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	1	VKL2605-00C	MAIN DECK		1	
	2	VKM3538-002	SUPPORTOR		1	
	3	VKZ4482-003	SCREW		5	
	4	CYKE2W002A	DRUM ASS'Y		1	
	5	SPSK1750N	MINI SCREW	DRUM ASS'Y	2	
	6	SPSK1780M	MINI SCREW	DRUM ASS'Y	1	
	7	VKZ3166-00C	DRUM BASE(L)ASY		1	
	8	VKH5519-002	FLANGE		1	
	9	VKH5521-002	FLANGE (L)		1	
	10	VKW4966-003	COMP.SPRING		1	
	11	VKH5543-002	GUIDE ROLLER		1	
	12	VKZ4616-001	SCREW		1	
	13	VKZ2121-002	DRUM BASE(R)		1	
	14	VKS5402-00A	INC.POST(R) ASY		1	
	15	VKZ4539-001	MINI TAP SCREW		1	
	16	SF29AA	CAPSTAN MOTOR		1	
	17	VKS5360-002	P.B GUIDE(2)		1	
	18	VKM3532-00E	ACTUATOR UNIT		1	
	19	VKZ4482-003	SCREW	ACT.UNIT	2	
	20	EYHS78G2	DEW SENSOR		1	
	21	SPSK2016M	MINI SCREW		1	
	22	VKS5381-003	ACT GEAR (4)		1	
	23	WFM133050	WASHER		1	
	24	VKS5382-002	ACT GEAR(5)		1	
	25	WDL082025-4	SLIT WASHER		2	
	26	VKS5368-002	ACT GEAR (6)		1	
	27	VKZ4662-001	ACT GEAR (7)		1	
	28	WDL082025-4	SLIT WASHER		2	
	29	VKZ4661-001	GEAR (L)		1	
	30	VKS5408-002	GEAR (R)		1	
	31	VKZ4482-003	SCREW		2	
	32	VKS3564-00B	CAM S.W ASS'Y		1	
	33	VKZ4616-001	SCREW		1	
	34	VKZ4482-003	SCREW		1	
	35	VKL7086-00E	L.ARM (L) ASY		1	
	36	VKS3575-00A	INCLINED POST L		1	
	37	VKZ4616-001	SCREW		1	
	38	VKM3534-001	CAM GEAR (R)		1	
	39	VKZ4482-003	SCREW		1	
	40	VKL7088-00D	S.D ARM ASS'Y		1	
	41	VKS5381-001	ACT GEAR (4)		2	
	42	VKS3534-00B	CAM LEVER ASS'Y		1	
	43	WDL082025-4	SLIT WASHER		1	
	44	VKZ2122-001	TENS.ARM GUIDE		1	
	45	VKZ4482-003	SCREW		3	
	46	VKS3565-001	TNS.SERVO LEVER		1	
	47	VKW4989-001	TENSION SPRING		1	
	48	VKM3535-001	CAM GEAR (L)		1	
	49	VKZ4482-003	SCREW		1	
	50	VKM3536-00C	L.ARM (R1) ASY		1	
	51	VKW4987-002	TORSION SPRING		1	
	52	VKL7091-00A	PLAY ARM ASY		1	
	53	WDL214025-4	WASHER		1	
	54	VKL7093-002	PLAY ARM(2)		1	

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	55	VKW4968-003	TENSION SPRING	P R PRESSURE	1	
	56	VKS3556-002	T.U ARM GUIDE		1	
	57	VKZ4616-001	SCREW		2	
	58	VKZ4482-003	SCREW		1	
	59	VMW2856-001	PW BOARD	MAIN DECK	1	
	60	VKL2607-00E	SUB DECK ASY		1	
	61	VKZ4633-001	BRAKE RUBBER		2	
	62	VKW4970-002	TORSION SPRING	BRAKE	2	
	63	VKS5394-001	B.T GEAR		1	
	64	VKW4986-001	COMP.SPRING	B.T GEAR	1	
	65	WDL082025-4	SLIT WASHER		1	
	66	VKR4680-001	FR GEAR		1	
	67	VKW4972-001	FR SPRING		1	
	68	VKH5567-001	FLANGE COLLAR		1	
	69	SSSH1420M	MINI SCREW		1	
	70	VKL7110-002	LOCK LEVER(1)		1	
	71	VKH5550-001	FLANGE COLLAR		1	
	72	VKZ4616-001	SCREW		1	
	73	VKL7111-001	LOCK LEVER(2)		1	
	74	VKH5551-001	FLANGE COLLAR		1	
	75	VKZ4616-001	SCREW		1	
	76	VKW4971-001	TORSION SPRING		1	
	77	VKZ4482-003	SCREW	SUB DECK	4	
	78	VKR4684-00E	REEL GEAR ASS'Y		2	
	79	WFM163025	WASHER		2	
	80	VKR4563-006	REEL FEATHER		2	
	81	WDL122525-4	SLIT WASHER		2	
	82	VKW5001-002	COMP. SPRING		2	
	83	VKS5379-003	C GUIDE(L)		1	
	84	VKZ4482-003	SCREW		1	
	85	VKS3539-001	C GUIDE(R)		1	
	86	VKZ4482-003	SCREW		2	
	87	VKZ4617-001	LID SCREW		1	
	88	VKW4967-002	TORSION SPRING		1	
	89	VKS3540-002	P B GUIDE(1)		1	
	90	VKZ4482-003	SCREW		1	
	91	VKL7139-003	FPC HOLDER		1	
	92	VKZ4482-003	SCREW		2	
	93	SN01AA	REEL MOTOR UNIT		1	
	94	VKZ4482-003	SCREW	REEL MOTER	3	
	95	VKM3565-002	FPC BRACKET		1	
	97	VSH3102-001	SWITCH		1	
	98	SPSH1725M	MINI SCREW		1	
	99	VKZ4482-003	SCREW		1	
	100	VSH1167-001	S.W	CASEOON SW	1	
	101	SPSH2025M	MINI SCREW		1	
	102	VMW2857-001	PW BOARD	SUB DECK	1	
	103	NJL5134KL	END SENSOR		2	
	104	VKZ4482-003	SCREW		2	
	105	VKL7102-00E	TENSION ARM ASY		1	
	106	VKZ4685-001	GUIDE ROLLER	TENSION ARM	1	
	107	WFM122025	WASHER		2	
	108	WDL082025-4	SLIT WASHER		1	
	109	VKW4998-002	TORSION SPRING		1	

BLOCK NO. M2MM

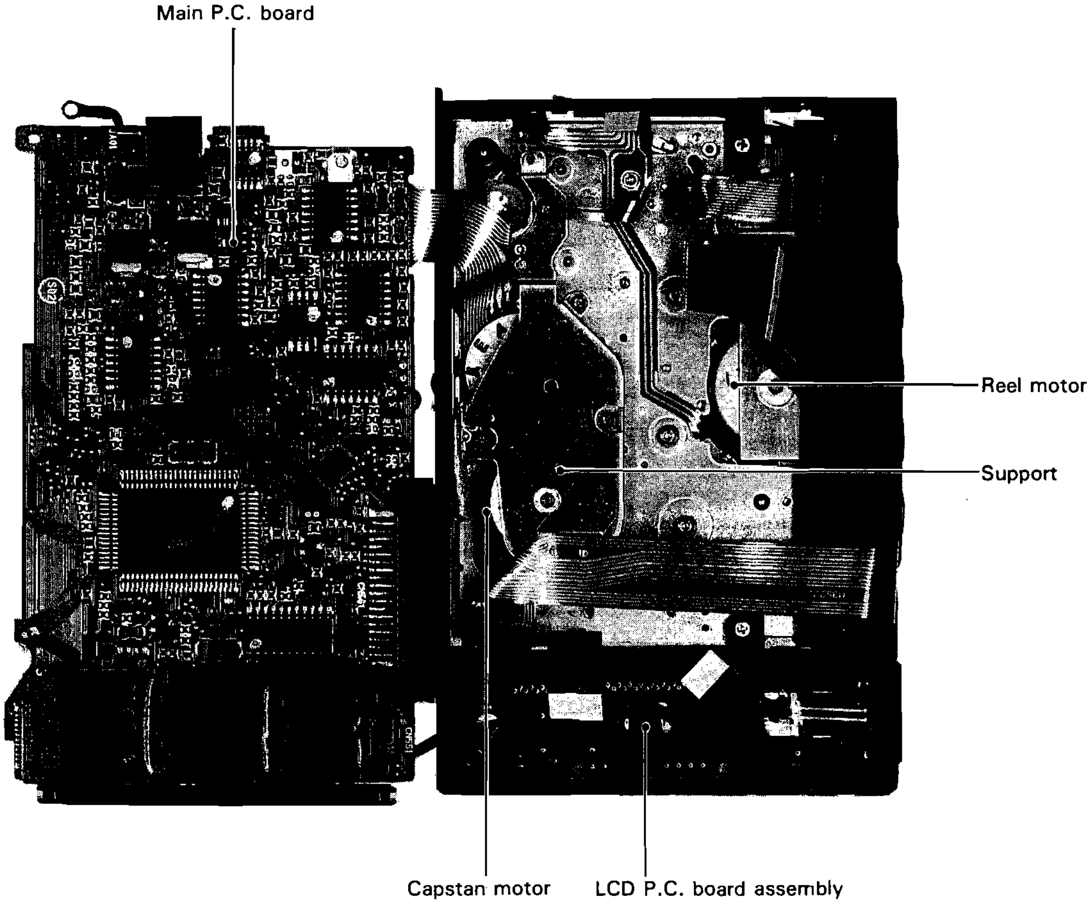
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	110	VKW5002-001	COMP.SPRING		1	
	111	VKW4969-002	TENSION SPRING		1	
	112	VKZ4634-00A	STRING ASS'Y		1	
	113	VKL7105-002	STRING BASE		1	
	114	VKZ4617-001	LID SCREW		1	
	115	VKL7095-00B	T.UP ARM ASY		1	
	116	VKZ4676-001	GUIDE ROLLER	TAKE UP ARM	1	
	117	WFM122025	WASHER		2	
	118	WDL082025-4	SLIT WASHER		1	
	119	WDL082025-4	SLIT WASHER		1	
	120	VKW4974-001	TORSION SPRING		1	
	121	VKP3121-00B	P.R.ARM ASS'Y		1	
	122	VKH5553-001	FLANGE COLLAR		1	
	123	SSSH1420M	MINI SCREW		1	
	124	VKW4975-001	COMP.SPRING		1	
	125	VKS3535-00E	P.BASE(T) UNIT		1	
	126	WDL122525-4	SLIT WASHER		1	
	127	VKZ4482-003	SCREW		2	
	128	VKS5413-00A	CLEANER UNIT		1	
	129	VKZ4482-003	SCREW		1	
	130	VKZ4482-003	SCREW		1	
	131	VKM3546-00D	C HOLDER ASS'Y		1	
	132	VKL7116-00B	CAS.SPRING ASY		2	
	133	SPSK1411M	MINI SCREW		2	
	134	VKL7117-00B	L GRIP SP ASY		1	
	135	SPSK1411M	MINI SCREW		1	
	136	VKM3548-00B	JOINT ARM L ASY		1	
	137	WDL122525-4	SLIT WASHER		1	
	138	VKM3549-00B	JOINT ARM R ASY		1	
	139	WDL122525-4	SLIT WASHER		1	
	140	VKM3559-003	HOLDER ARM		1	
	141	WDL122525-4	SLIT WASHER		2	
	142	VKW5003-002	TENSION SPRING		1	
	143	VKW4999-002	TENSION SPRING		1	
	144	VKL7140-00B	DOOR BKT ASY		1	
	145	WDL122525-4	SLIT WASHER		1	
	146	VKZ4482-003	SCREW		1	
	147	VKS3577-00B	DUMPER ASS'Y		1	
	148	SPSK1440N	MINI SCREW		1	
	150	VKL7081-00C	MOTOR BKT ASY		1	
	151	PKN-6GB03B	DRIVE MOTOR		1	
		VKR4655-001	MOTOR PULLEY		1	
	152	SPSK1416M	MINI SCREW		2	
	153	VKB3000-137	BELT		1	
	154	VKS5361-001	ACT GEAR (1)		1	
	155	VKS5366-004	ACT GEAR (2)		1	
	156	WDL082525-0	SLIT WASHER		2	
	157	WFM163013	WASHER		3	
	158	VYSS1R1-006	SPACER		1	
	159	WDL082025-4	SLIT WASHER		1	
	160	SSSK1425M	MINI SCREW		1	
	161	VKZ4482-001	SPECIAL SCREW		1	
	162	VKZ4672-001	SHEET		1	
	163	WFM082025	WASHER		1	

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	164	VKZ4673-001	SHEET		1	
	165	WFM173025	WASHER		1	
	166	VKS3580-002	T.A HOLDER		1	
	167	VKZ4482-003	SCREW		1	
	168	VKM3593-001	CLEANER BKT.		1	
	169	VKW4030-010	TORSION SPRING	CLEANER UNIT	1	
	170	VPZ4023-001	SERIAL LABEL		1	

Location of Main Parts

(Back Side)


Main P.C. board
Reel motor
Support
Capstan motor
LCD P.C. board assembly

Main Adjustment

Items to be Arranged for XD - PD1

•Power supply to the body of this system:

9[V] should be supplied to the DC jack from the special AC adaptor or regulated DC power supply.(When the checker is used, however, 6[V] should be supplied to the BATT terminal from regulated DC power supply).

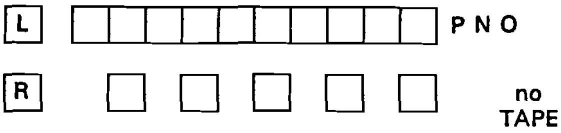
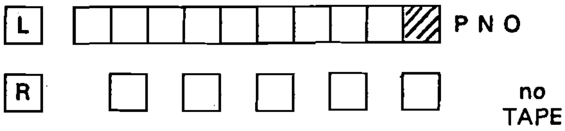
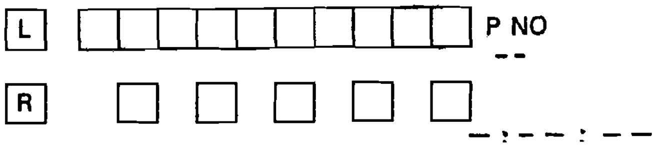
•Load resistor:

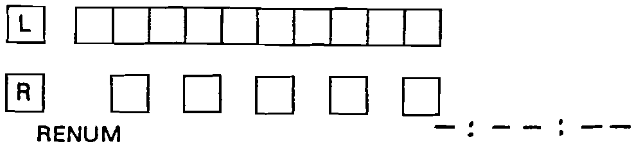
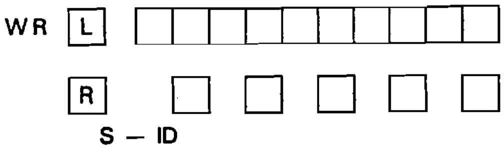
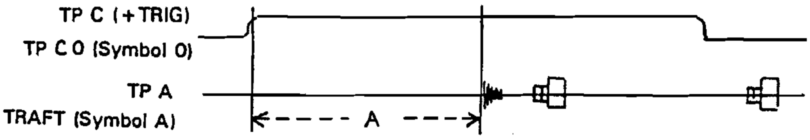
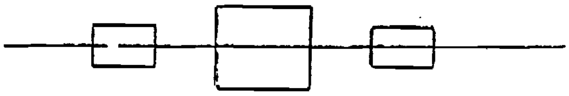
This resistor should be kept open unless specified otherwise.

• Measurement tape:

Test – 1 (For end detection)
Test – 2 (For replay check)
Test – 3 (For ID – 6 check)
Test – 4 (For COAXIAL IN/OUT level meter lighting)
Test – 5 (For counter display)
MOT – 3 (For error rate and drum phase adjustment)
For other general check, recording and replay, use MOT – 0.

■ Confirmation of Basic Actions

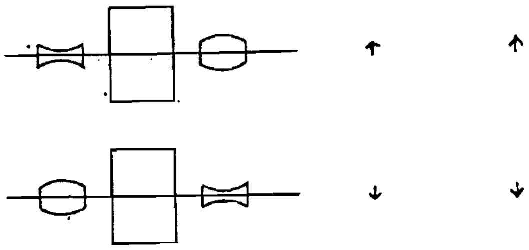
Items	Confirmation of adjustment
1. LCD display at the time of power supply input	After tuning on the power supply,  the LCD section will display the following, and [NO TAPE] flicker once. NOTE: [AUTO POWER OFF] function Unless any button operation has not been performed after turning on the power supply, the oblique lines will disappear one by one after every 30 seconds. 
2. LCD display at OPEN/CLOSE	During the [OPEN/CLOSE] action, this system should be free from any gear noise, thread overlap (scratch) and any other defect. At this time, moreover, the [NO TAPE] display of the LCD section should be flickering. After closing, the cassette should not be lifted.
3. LCD display during loading action	When the door has been closed after inserting a cassette,  The display of the LCD section will flicker as indicated below, and after initializing has come to an end, [A. TIME] will be displayed. After initializing, the drum motor will stop.

Items	Confirmation of adjustment
4. SUB – CODE action and LCD display	When the system is at a standstill, press the [MODE] button (Use a tape with a claw), At his time, confirm that LCD display will be changed over successively according to the following sequence: OFF → ST – In → ST – Er → SP – In → SP – Er End – I → End – E → *RENUM → OFF * Although the letters other than [RENUM] will appear at the position when [A. TIME] is displayed, [RENUM] will be displayed as follows:  When [ST – IN] is displayed, press the [ENTER] button. Then the LCD section will display the following:  Next, set the system to the [REC PAUSE] state and press the [MODE] button. Then, make sure that LCD display will be changed over successively according to the following sequence: DATA → MANUAL → END → I → AUDIO
5. Prevention of erroneous deletion.	Insert a tape without any claw, and make sure that the system is not placed into a state of [REC PAUSE].
6. END detection	Insert the TEST – 1 and close the door. At this time, make sure that the tape end (BOT. EOT) is detected and the system be placed into the [EJECT] state.
7. Battery	After switching off the power supply, turn on the power supply again while pressing the detector (power supply) switch. At this time, make sure that 🔋 is displayed on the LCD section, and after flushing of the LCD section, the power supply is turned off.
8. Drum phase	To adjust the drum phase, short the TEST – 1 to GND. Then, insert the MOT – 3 and press the VOL. (–) key. After this time, check the waveforms TP C and TP A:  TP C (+TRIG) TP C0 (Symbol 0) TP A TRAFT (Symbol A) A Remove the [EJECT] switch section and adjust the waveform at A = 1,430 ± 50 μ S with the semi – stationary VR.
9. Track linearity	Personal computer judgement software: XDP1 1. While replaying the MOT – 12, adjust the [S UP] and [T UP] side of the guide roller so that the waveform TP A becomes as indicated below (the enclosing line waveform become flat): 

<table>
<tr><th>Items</th><th>Confirmation of adjustment</th></tr>
<tr><td></td><td>

Note: In this case, adjust the guide roller according to the following step: Namely, after turning the guide roller in the tightening direction, turn the roller in the loosening direction, and stop roller turning just before the enclosing line becomes flat. Next, tighten the roller by turning it by 1/8 turn in the tightening direction.

Guide roller adjusting direction
[S UP] side [T UP] side



2. While performing tape loading action, reconfirm the enclosing line waveform (Should the waveform be changed, adjust the waveform again).
3. Make sure that the waveform is free from any fluctuation after searching.
4. Check whether the track linearity is acceptable or not with the personal computer software.

After the result of check is acceptable, lock the system (roller) with the screw.

</td></tr>
<tr><td>10. Recording and replay envelope</td><td>

Personal computer judgement software: XDP1

While recording and replaying with the MOT − 0, confirm the output waveforms (TP R) from both of channels. Then, check the following items with personal computer software:

PCM range : 85 % or more
Sub code range : 75 % or more
Absolute level : 1.0 Vp − p or more

</td></tr>
<tr><td>11. Error rate</td><td>

Turn the checker switch to [TEST ON].

Then, replay the MOT − 3, and confirm that the error rate displayed on the LCD section is 100 or less.

</td></tr>
<tr><td>12. Automatic replaying measurement [Fs = 48 K]</td><td>

Standard automatic replaying measurement tape: TEST − 2

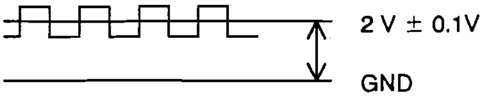
Automatic measurement software: PIPK VER. 3.03

Initializing: Press the [EJECT] button for 3 seconds or more under the ejected condition. Next, press the [MODE] button and insert the test tape. Then, confirm that the [VOL. 40] is displayed on the LCD section immediately after the [MODE] button has been pressed.

Note: Be sure to perform ON/OFF switching operation of the personal computer after the power switch of jigs, etc. has been turned off (Load resistance: 47 k Ω)

<table>
<tr><td>1 kHz output</td><td>0 [dBV] ± 2 [dB]</td></tr>
<tr><td>Distortion</td><td>0.018 % or less</td></tr>
<tr><td rowspan="2">Frequency characteristics
1 kHz : 0 [dB]</td><td>20 Hz: 0 [dB] ± 2 [dB]</td></tr>
<tr><td>22 kHz: − 0.5 [dB] ± 1 [dB]</td></tr>
<tr><td rowspan="2">Stroke</td><td>L → R: 80 [dB] or more</td></tr>
<tr><td>R → L: 80 [dB] or more</td></tr>
<tr><td rowspan="2">Emphasis</td><td>5 kHz: − 4.53 [dB] ± 1 [dB]</td></tr>
<tr><td>16 kHz: − 9.04 [dB] ± 1 [dB]</td></tr>
<tr><td>S/N</td><td>85 [dB] or more</td></tr>
</table>

</td></tr>
</table>

Items	Confirmation of adjustment
13. COAXIAL IN/OUT	Connect the jig DAT to the body (XD – P1) (VOL. 40 during recording). Play the TEST – 4 with the jig DAT and record the output with the body. ↓ After recording, put the jig DAT side into the sampling monitor state, and play the recorded tape on the body side. ↓ Confirm that [48 k] is indicated as [EMPHASIS] on the jig DAT display unit. At this time, make sure that the distortion rate is (Load resistance: 47 k Ω) as follows: 0.018 % or less
14. [COPY PROHIBIT] Code	Connect the jig DAT to the body (XD – P1). Then, insert the TEST – 3 to both the DAT and body (clawed tape with the COPY PROHIBIT code). Jig DAT → Body Jig DAT : Replay/Play of tape Body : Under the [REC. PAUSE] state, confirm that [D – IN] is flickering quickly and [PROHIBIT] is displayed on the LCD section when the [PLAY] button has been pressed. Jig DAT → Body Body : Replay of tape Jig DAT : Under the [SAMPLING MONITOR] state, confirm that [COPY PHBT] is turned on and [DIGITAL INPUT] is flickering quickly on the LCD section.
※ Adjustment of VCO	While replaying the MOT – 3, confirm that the DC voltage of TPP – D (symbol D) is 2 V ± 0.1V.  Since this voltage has been adjusted during assembly of the chip on board (COB), there will be no need to readjust the voltage. In case the voltage is so deviated as to require readjustment, replace the COB.

■ Confirmation of Recording and Replay

•Power supply
9[V]should be supplied from the special AC adaptor or regulated DC power source.

•Load resistor:
This resistor should be kept open unless specified otherwise.

• Measurement tape to be used:
MOT – 0 (DA – 60)

• Audio analyzer setting:
22 k LPF

Fs=48k	Minimum input level	OFF
	Recording/replay distortion rate	ON
	Recording/replay frequency characteristics	OFF
	Recording/replay cross talk	ON
	Recording/replay S/N	ON
Fs=32k	Recording/replay frequency characteristics	OFF
	Recording/replay distortion rate	ON

In the case of recording/replay S/N cross talk, however, the audio analyzer should be set to 22 kLPF + JIS A.

• Initializing:
AD unit
[REC] mode ... [ANALOG] and [STANDARD]
[MIC./LINE IN] ... [LINE]
[MIC ATT] ... 0 dB
P – 1 for jig
VOL ... 40

• Others:
Input : [LINE IN]
Output : [H. PHONE OUT] but [OPT IN] at the tim of optical input

Note: The actions and performances of the respective switches should be checked by visual check of FA with the P.C. board checkers.

At first, connect the jig P1 to the AD unit.

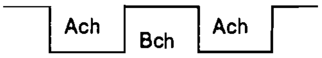
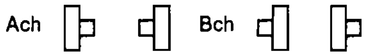
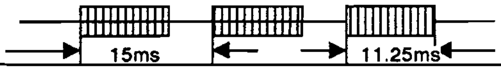
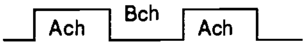
1. Making of power supply [POWER ON]
Insert a DC jack to the AD unit and switch on the power supply.

2. Recording and replay

Items	Confirmation of adjustment
1. Minimum input level (fs = 48 kHz)	[INPUT VOL. MAX] of the AD unit While inputting 1 kHz under the [REC. PAUSE] state, adjust the output of the audio analyzer so that the output ([H.P. OUT]) from the jig P1 becomes – 12 [dB]. The output becomes – 22 [dBv] ± 2 [dB]. At this time, confirm that the waveform is changed when the input volume of the AD unit is turned. Meanwhile, the output of the audio analyzer should becomes – 12 [dBv] in the case of the following items.
2. Recording and replaying distortion rate (fs = 48 kHz)	While recording and replaying 1 kHz, confirm that the recording and replaying distortion rate is within 0.018 %.
(fs = 32 kHz)	While recording and replaying 1 kHz, confirm that the recording and replaying distortion rate is 0.1 % or less.
3. Recording and replaying frequency characteristics (fs = 48 kHz)	While recording and replaying 1 kHz, 20 Hz and 22 kHz, confirm that the differences of the respective levels become as follows with reference to the 1 kHz level: 1 k : 20 Hz 0 [dB] ± 1 [dB] 1 k : 22 kHz – 0.5 [dB] ± 1 [dB]
(fs = 32 kHz)	While recording and replaying 20 Hz, 1 kHz and 14.5 kHz, confirm that the differences of the respective levels become as follows with reference to the 1 kHz level: 1 k : 20 Hz 0 [dB] ± 1 [dB] 1 k : 14.5 kHz 0 [dB] ± 1 [dB]
4. Recording and replaying cross talk	While recording 1 kHz to only Lch and Rch, respectively (the other channel shall be shorted) confirm that the difference of each level becomes as follows: Lch: L is 40 dB or more when viewed from Rch at the time of signal (Rch: No signal) Rch: R is 40 dB or more when viewed from Lch at the time of signal (Rch: No signal)
5. Recording and replaying S/N	While recording and replaying 1 kHz, confirm that the difference of the level is 82 dB or more.

<table>
<tr><th>Items</th><th>Confirmation of adjustment</th></tr>
<tr><td>6. Check of [OPT] Input</td><td>Connect the jig DAT and AD unit with optical cable.
By selecting the select switch to [OPT] executing [OPT] input, confirm that [D – IN] flickering is changed over to lighting.
By recording the input, moreover, confirm that the sound is output.</td></tr>
<tr><td>7. Action and LCD Display</td><td>1) [PLAY] and [PAUSE]
From the [STOP] state,
press ▶ by odd number times : [PLAY] state
press ▶ by even number times : [PLAY PAUSE] state.
Then, the LCD section will display by lighting:
[PLAY] during PLAY
[PAUSE] during PLAY PAUSE
2) [FF]/[REW] (SKIP)
<table>
<tr><th>During [PLAY]</th><th>Momentary pressing</th><th>Continuous pressing</th></tr>
<tr><td>▶▶</td><td>[F. SKIP]</td><td>[QUE]</td></tr>
<tr><td>◀◀</td><td>[B. SKIP]</td><td>[REV.]</td></tr>
</table>
<table>
<tr><th>During [STOP]</th><th>Momentary pressing</th><th>Continuous pressing</th></tr>
<tr><td>▶▶</td><td>[F. SKIP]</td><td>[FF]</td></tr>
<tr><td>◀◀</td><td>[B. SKIP]</td><td>[REV.]</td></tr>
</table>
Momentary pressing : Within 1.5 sec.
[A. TIME] display : By performing manual searching action, confirm that the display reading is smoothly changed from the speed of 25 times to that of 150 times.
Counter display : While playing the TEST – 5, confirm that the digit is smoothly changed. During the above action, confirm that the tape is free from sagginng and there are no noise from the traveling mechanism and any other defect.</td></tr>
</table>

■ Test points on the P.C. board of XD – PD1

S	SWP head select signal, 33.3 Hz at replay 
A	Replay ATF pilot signal 
R	Replay RF signal 
G	GND
D	TPP – D, VCO control signal
V	COB volume voltage
I	IPF auxiliary plug
O	COH – D servo reference signal, 33.3 Hz 
P	CPO, Capstan FG signa
C	CFG, Capstan FG signal
Y	ASYNC ATF sampling pulse
TPRO	Reel servo PWM
TPBOT	BOT sensor output
TPEOT	EOT sensor output
TPSR	Supply side reel pulse
TPTR	Takeup side reel pulse
TPRFG	Replay envelope detector signal
MPOS	Cam switch position
TEST – 0	For error rate display (Short it to GND whenever it is used)
TEST – 1	For mechanism adjustment (Short it to GND whenever it is used).

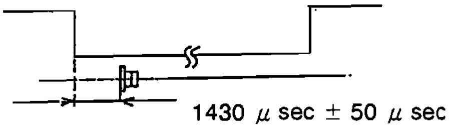
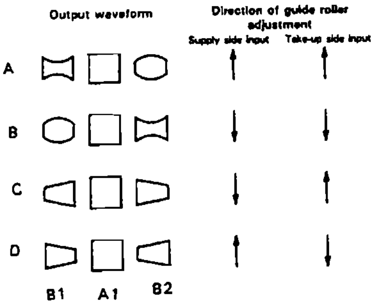
In case it has been judged by microcomputer that there is error in the mechanism under the state of error rate display mode by shorting the TEST – 0 to GND, either of the following messages will be displayed:

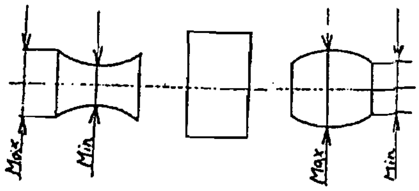
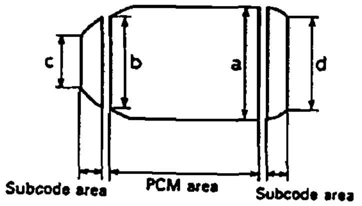
ERR 1	Mechanical error (Cam position is NG)
ERR2	Sag error (The loading capstan servo is not locked)
ERR3	CFG timeout (In case any capstan FG does not appear in 5 sec.)
ERR4	In case the reel is not roated (Any reel pulse is not output)
ERR5	Drum error (In case the drum is not locked within 3 sec.)
ERR6	Capstan error (In case the capstan servo is not locked during play)
ERR7	COHD error (In case COHD (33.3 Hz) is not output)
ERR8	BOT error (In case the BOT sensor or EOT sensor is kept at L during initializing)
ERR9E	PG error (In case the drum is not roated when the power supply has been made).
ERR –	In case the drum servo is in fault.
(1) In case the drum is not roated when a tape has been loaded; (2) In case +5 V is obtained When the (💧) mark has appeared although there is any particular trouble.	

■ Mechanism

No.	Items	Standards	Adjust and check Methods		Jigs and tools	Remarks
1.	Confirmation of cassette half 4 – point backlash	Floating position at 3 point supporting: 0.2 mm or less	Confirm that the position floating at one point on the opposite side is within the left side standard value at the time of drum side 2 – point supporting.		DA300	
2.	Adjustment of tension servo	FWD PLAY S – REEL 4 ~ 8 gf – cm REV PLAY T – REEL 13 ~ 26 gf – cm	1. Under the playing conditions, turn off the power supply, and adjust the tension servo with the T. adjuster so that clearance (gap) between the right side of the T. arm SA tip and the riser section of the act unit is 0 ~ 0.5 mm (During this adjustment, the section B on the right side should by no means be submerged.) 2. With a cassette type torque gauge, measure the back tension value, and confirm that the measurement is within the standard value the left side.		Cassette type torque meter (gauge) *(TW-7131)	
3.	Confirmation of loading action		While repeating [PLAY] and [EJECT], confirm that both the slamp poles (S) and (T) and sub deck act smoothly without being caught.			
4.	Confirmation of mechanism action	PLAY (REC), FF, REW, CUE, PAUSE, STOP, REV	Confirm that all of the standard actions given on the left side are executed smoothly.			
5.	Check of the respective rotating actions	PLAY, EJECT, FF, REW	1. Confirm that this unit is free from any abnormal noise, vibration or other trouble (gear noise, vibration, etc.) during the respective actions regardless of whether any tape is loaded or not. 2. Confirm that this unit is free from any abnormal noise (gear noise, vibration, etc.) during selection of the respective modes.			
6.	Confirmation of brake		1. Under the half loading state, confirm that the brake lever returns precisely to its initial position when the lever has been moved in the arrow direction. 2. Confirm the TUP side brake is set free under the half loading state. 3. Confirm that the TUP side brake is in action during sub deck unloading.			
7.	Confirmation of the respective I/D switch actions		Mount the check jig and confirm that the following sequence takes place successively: Cassette detector switch ON – Changeover to [NO TAPE] display and erroneous deletion preventive switch ON – Changeover to [REC.] mode and I/D switch ON – special LED ON.	I/D check jig		

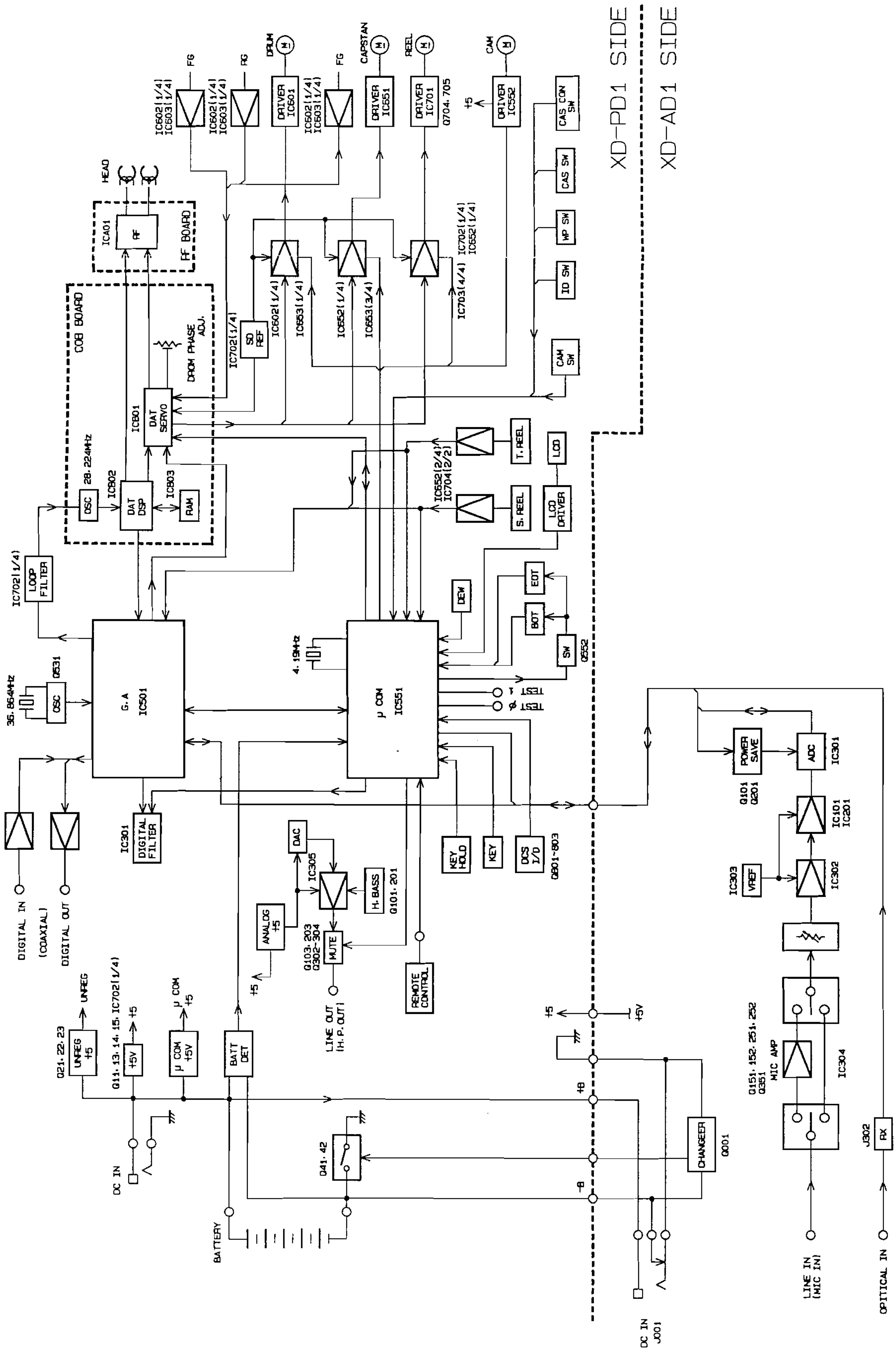
Notes 1) Dismount the drum cover before adjustment.
2) Subsequent to confirming the action of the I/D switch in Item 7, attach the cassette controller [Mechanism Ass'y (4)].
3) For mounting/dismounting the mechanism action controller, be sure to use the specified analog gig.

No.	Items	Standards	Adjust and check Methods		Jigs and tools	Remarks
8.	Check of external appearance and internal parts		1. Make sure that all of the fittings do not contain any unspecified parts, and are free from deformation, scrach fouling and other defects. 2. The screw washer, etc. should be attached exactly. 3. Grease, oil, etc. should be coated or supplied in appropriate quantity to prevent overflow and other trouble. 4. The tape traveling surface of drum should be free from finger print, fouling and other defect. 5. The act unit belt should be free from twisting and fouling.			
9.	Confirmation of reel hole IC		Both the T – UP and S – UP reels should be synchronized in rotation to generate exact pulse, and free from any loss of waveform and fouling.			
10.	Adjustment of drum phase	1434 μ sec ± 50 μ sec SWP ATF		The adjusting VOR/VR is provided within COB P. C. board	Digital oscilloscope	Adjust the drum phase with the [DOWN] button under the analog jig adjusting mode
11.	Adjustment of track linearity	Evaluate the linearity using the personal computer processing software: "XDP1"	1. While replaying the MOT – 12, adjust the linearity on the S – up and T – up sides of the guide roller so that the 130 kHz leak signal envelope line waveform becomes flat:  Output waveform Direction of guide roller adjustment Supply side input Take-up side input A B C D B1 A1 B2 2. After executing the tape loading action, reconfirm the waveform in Item 1 above. (Should the waveform be fluctuated, readjust the linearity). 3. Confirm that the waveform is free from fluctuation after searching. 4. After completing adjustment, save the linearity data into a floppy disk together with the series No. of the mechanism.	MOT – 12	Digital oscilloscope Personal computer	For adjusting the guide roller, turn the roller in the tightening direction in advance, and turn it in the loosening direction as in the case of the waveform sample A. Then, stop turining the roller immediately before the envelope line becomes flat (Meanwhile, be sure not to turn the guide roller in the direction of the sample waveform B.)

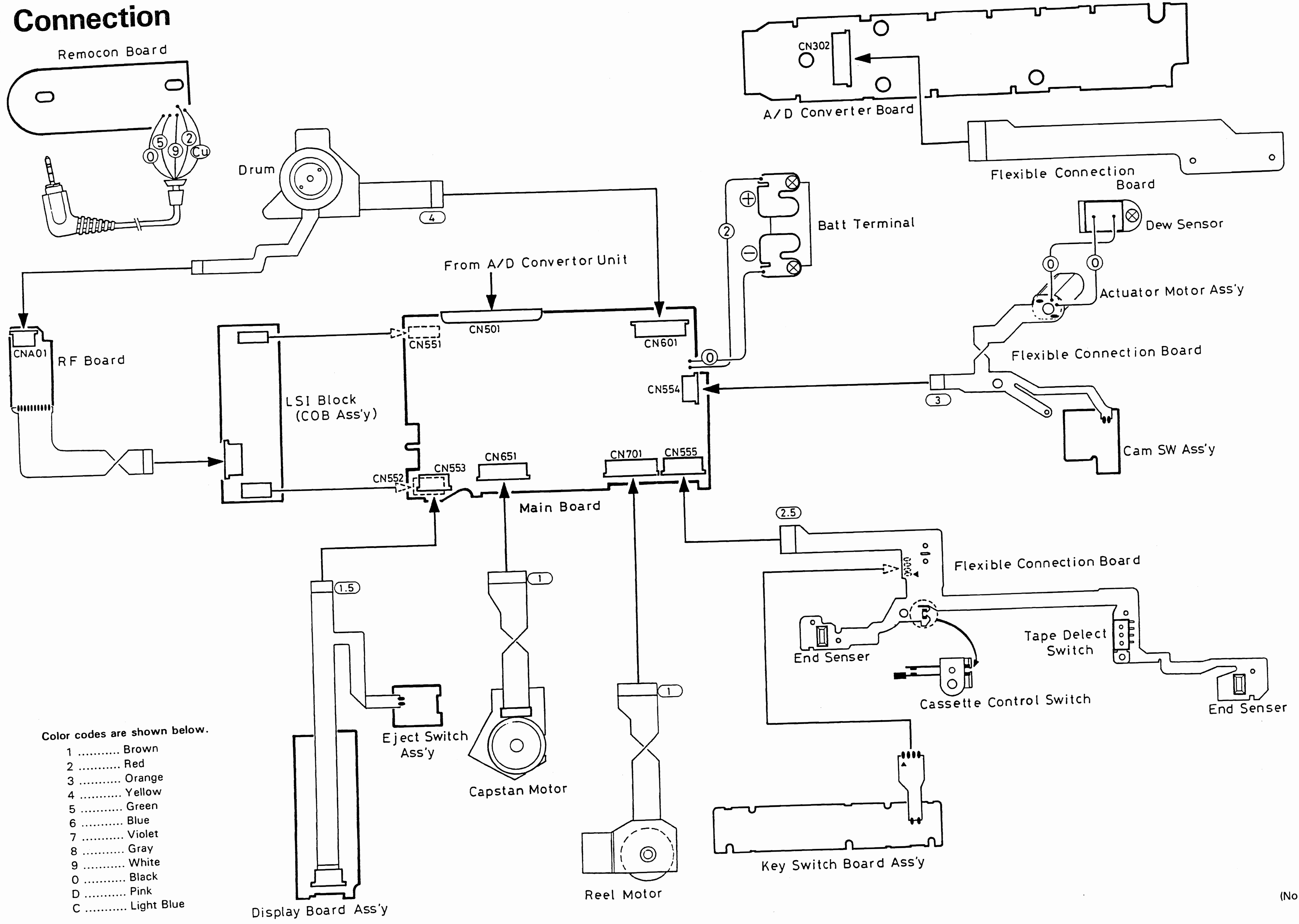
No.	Items	Standards	Adjust and check Methods		Jigs and tools	Remarks
12.	Confirmation of waveform rising	[MIN.]/[MAX.] shall become 50% or more within 1 sec. after play start.	While replaying MOT – 12, execute the following five actions: $\frac{\text{Min}}{\text{Max}} \geq 50\%$ 1. Que 2. Review 3. FF, PLAY 4. REV. 5. STOP Confirm that the waveform becomes 50% or more during execution of the five actions. 	MOT – 12	Digital oscilloscope	
13.	Confirmation of recording and replaying envelope	RF: OUT PCM range: 75% or more Sub code range: 65% or more (Confirmation of replaying channel) Absolute level: 1.0V p-p or more	1. While executing recording and replay with FUJI tape, confirm that the PCM range and sub code range of the Ach and Bch output waveforms are 75% and 65% or over, respectively.  c b a d Subcode area PCM area Subcode area $\frac{b}{a} \geqq 75\%$ $\frac{c}{a} \geqq 65\%$ $\frac{d}{a} \geqq 65\%$ a. Envelope: Max. b. In sub cord: Min. c. PCM: Min. d. OUT sub code: Min. *The waveform shape should not necessarily be as indicated above. 2. The absolute level should be 1.0 Vp-p or more. 3. The Ach/Bch ratio should be 70% or more.	FUJI TAPE (while 5 min. after starting 120 min. tape winding)	Digital oscilloscope (VP – 574005741)	
14.	Confirmation of searching action and stretch		1. While executing the respective [PLAY], [CUE], [REVIEW] and [FF/REV.] modes with the Fuji tape, confirm that the unit is free from curled travel on the guide roller and INC post. 2. Make sure that any stretching takes place when starting winding of Fuji tape as well as at the end of review and play winding of the tape.	Fuji tape/FUJI tape		

No.	Items	Standards	Adjust and check Methods		Jigs and tools	Remarks
15.	Confirmation of the action of cassette controller		1. Confirm that the cassette controller is locked exactly (not halflocked) regardless of whether any tape is loaded or not when the button center of the cassette controller has been pressed. 2. While executing opening action with the cassette controller, confirm that the door is opened smoothly without being caught and the damper acts exactly (without two step action and irregular opening speed) regardless of whether any tape is loaded or not. 3. Make sure that the damper is free from any excessive grease leak of fouling. 4. While executing opening and closing action with the cassette controller, confirm that the unit is free from abnormal noise. 5. Confirm that the tape does not come into contact with the T – up guide, guide rollers and other parts when the tape is inserted or loaded into the sub deck.	Fuji tape		
16.	Confirmation of EOT and BOT detector actions		While executing [AUTO REW.] action by [FF END], make sure that the unit is put into [AUTO STOP] exactly with [REW END]	Fuji tape		
17.	Confirmation of tape speed	633 ± 3 Hz	Confirm the tape speed is within capstan F.G. 633 ± 3 Hz when MOT – 3 winding is ended.	MOT – 3		
18.	Error rate	100 counts or less during MOT – 3 replaying 100 counts or less during self – recording (LP and SP)	1. By replaying MOT – 3, confirm that the error rate vaue is not greater than 100 counts. 2. Confirm that the error rate is not more than 100 counts in the case of self – recording (both LP and SP) and no signal recording with MOT – 0.	MOT – 3 Fuji tape		

Block Diagram


XD-PD1 SIDE
XD-AD1 SIDE
HEAD
ICA01
RF
RF BOARD
COB BOARD
IC801
DAT SERVO
DRUM PHASE ADJ.
28.224MHz
OSC
IC802
DAT DSP
IC803
RAM
IC702(1/4)
LOOP FILTER
36.864MHz
OSC
Q531
G.A
IC501
IC301
DIGITAL FILTER
DIGITAL IN
(COAXIAL)
DIGITAL OUT
4.19MHz
μ COM
IC551
FG
DRUM
CAPSTAN
REEL
CAM
IC602(1/4)
IC603(1/4)
DRIVER
IC601
IC551
IC701
Q704.705
IC552
+5
CAS CON SW
CAS SW
WP SW
ID SW
CAM SW
IC702(1/4)
IC652(1/4)
IC703(4/4)
IC652(1/4)
IC653(3/4)
IC602(1/4)
IC653(1/4)
SD REF
IC652(2/4)
IC704(2/2)
T.REEL
S.REEL
LCD
LCD DRIVER
DEW
EOT
BOT
SW
Q552
TEST 1
TEST φ
KEY HOLD
KEY
DCS I/O
Q801-803
REMOTE CONTROL
DAC
IC305
H.BASS
Q101.201
ANALOG +5
Q103.203
Q302-304
MUTE
LINE OUT
(H.P.OUT)
+5
Q21.22.23
UNREG +5
UNREG
Q11.13.14.15.IC702(1/4)
+5V
μ COM +5V
μ COM +5
BATT DET
DC IN
Q41.42
BATTERY
+5
+5V
+B
-B
CHANGER
Q001
DC IN
J001
POWER SAVE
Q101
Q201
ADC
IC301
IC101
IC201
IC303
VREF
IC302
Q151.152.251.252
Q351
MIC AMP
IC304
J302
RX
LINE IN
(MIC IN)
OPTICAL IN

Wiring Connection

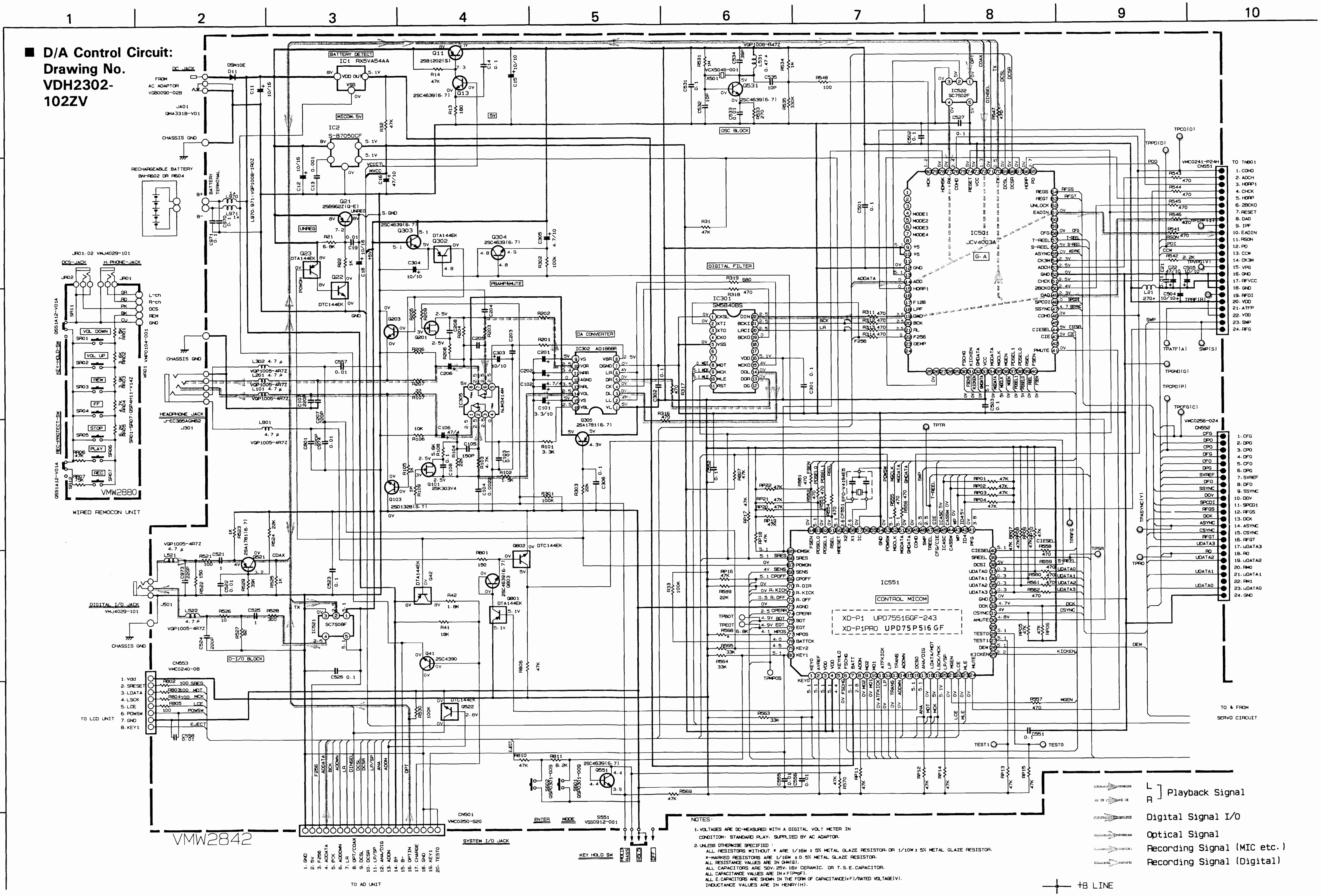

Remocon Board
5
2
0
9
Cu
Drum
4
A/D Converter Board
CN302
Flexible Connection Board
Batt Terminal
2
Dew Sensor
0
0
Actuator Motor Ass'y
From A/D Convertor Unit
CN501
CN601
CNA01
RF Board
CN551
LSI Block
(COB Ass'y)
0
CN554
Flexible Connection Board
3
Cam SW Ass'y
CN552
CN553
CN651
CN701
CN555
Main Board
2.5
Flexible Connection Board
1.5
1
End Senser
Tape Delect Switch
Cassette Control Switch
End Senser
Eject Switch Ass'y
Capstan Motor
1
Key Switch Board Ass'y
Reel Motor
Display Board Ass'y

Color codes are shown below.

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Gray
9	White
0	Black
D	Pink
C	Light Blue

Standard Schematic Diagram

■ D/A Control Circuit: Drawing No. VDH2302-102ZV


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
DC JACK
FROM AC ADAPTOR VG80090-028
JA01 QMA3318-V01
CHASSIS GND
RECHARGEABLE BATTERY BN-R602 OR R604
BATTERY TERMINAL
BATTERY DETECT
IC1 RX5VA54AA
IC2 S-87050CF
MICOM 5V
Q11 2SB1202(S)
Q13 2SC4639(6.7)
Q21 2SB962Z(Q-E)
UNREG
Q23 DTA144EK
Q22 DTC144EK
Q303 2SC4639(6.7)
Q302 DTA144EK
Q304 2SC4639(6.7)
PBAMP&MUTE
OSC BLOCK
X501 CX5046-001
Q531 2SC4639(6.7)
DIGITAL FILTER
IC301 SM5840BS
DA CONVERTER
IC302 AD1868R
IC305 NJM4558M
Q201
Q203
Q101
Q103 2SD1328(S.T)
Q305 2SA1781(6.7)
IC501 JCV4003A
G・A
IC522 SC7502F
VMC0241-P24H CN551
TO TN801
1. COHO
2. ADCH
3. HDRP1
4. CHCK
5. HDRP
6. 2BCKO
7. RESET
8. DAO
9. IPF
10. EADIN
11. RSON
12. PO
13. CCW
14. CK3M
15. VPG
16. GND
17. RFVCC
18. GND
19. RFDI
20. VDD
21. ATFP
22. VDD
23. SWP
24. RFG
VMC0256-024 CN552
1. CFG
2. DPO
3. CPO
4. DFG
5. CFO
6. DPG
7. SVREF
8. DFO
9. SSYNC
10. DOV
11. SPCD1
12. RFGS
13. DCK
14. ASYNC
15. CSYNC
16. RFGT
17. UDATA3
18. RO
19. UDATA2
20. RMO
21. UDATA1
22. RM1
23. UDATA0
24. GND
TO & FROM SERVO CIRCUIT
JR01.02 VMJ4029-101
DCS-JACK
H.PHONE-JACK
L-ch
R-ch
DCS
REM
GND
VOL DOWN
VOL UP
REW
FF
STOP
PLAY
REC
KEY-HOLD-SW
REC-PROTECT-SW
VMW2880
WIRED REMOCON UNIT
HEADPHONE JACK J-EC385AGH82 J301
CHASSIS GND
DIGITAL I/O JACK VMJ4029-101
J501
IC521 SC7S08F
O-I/O BLOCK
Q521 2SA1781(6.7)
CN553 VMC0240-08
1. Vdd
2. SRESET
3. LDATA
4. LSCK
5. LCE
6. POWSW
7. GND
8. KEY1
TO LCD UNIT
Q41 2SC4390
Q42 DTA144EK
Q522 DTC144EK
Q801 DTA144EK
Q802 DTC144EK
Q803 2SC4639(6.7)
IC551
CONTROL MICOM
XD-P1 UPD75516GF-243
XD-P1PRO UPD75P516GF
TPTR
TPMPOS
TEST1
TESTO
Q551 2SC4639(6.7)
S551 VSS0912-001
ENTER
MODE
KEY HOLD SW
CN501 VMC0250-S20
SYSTEM I/O JACK
1. GND
2. 5V
3. F256
4. ADDATA
5. BCK
6. ADDOWN
7. LR
8. OPT/COAX
9. DCSL
10. DCSR
11. LP/SP
12. ANA/DIG
13. ADON
14. B+
15. B-
16. OPTIN
17. CHARGE
18. GND
19. KEY1
20. TESTO
TO AD UNIT
VMW2842

NOTES:

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER IN CONDITION: STANDARD PLAY. SUPPLIED BY AC ADAPTOR.
2. UNLESS OTHERWISE SPECIFIED :
   ALL RESISTORS WITHOUT * ARE 1/16W ± 5% METAL GLAZE RESISTOR. OR 1/10W ± 5% METAL GLAZE RESISTOR.
   *-MARKED RESISTORS ARE 1/16W ± 0.5% METAL GLAZE RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE 50V, 25V, 16V CERAMIC. OR T.S.E. CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE(V).
   INDUCTANCE VALUES ARE IN HENRY(H).

L] Playback Signal
R

Digital Signal I/O

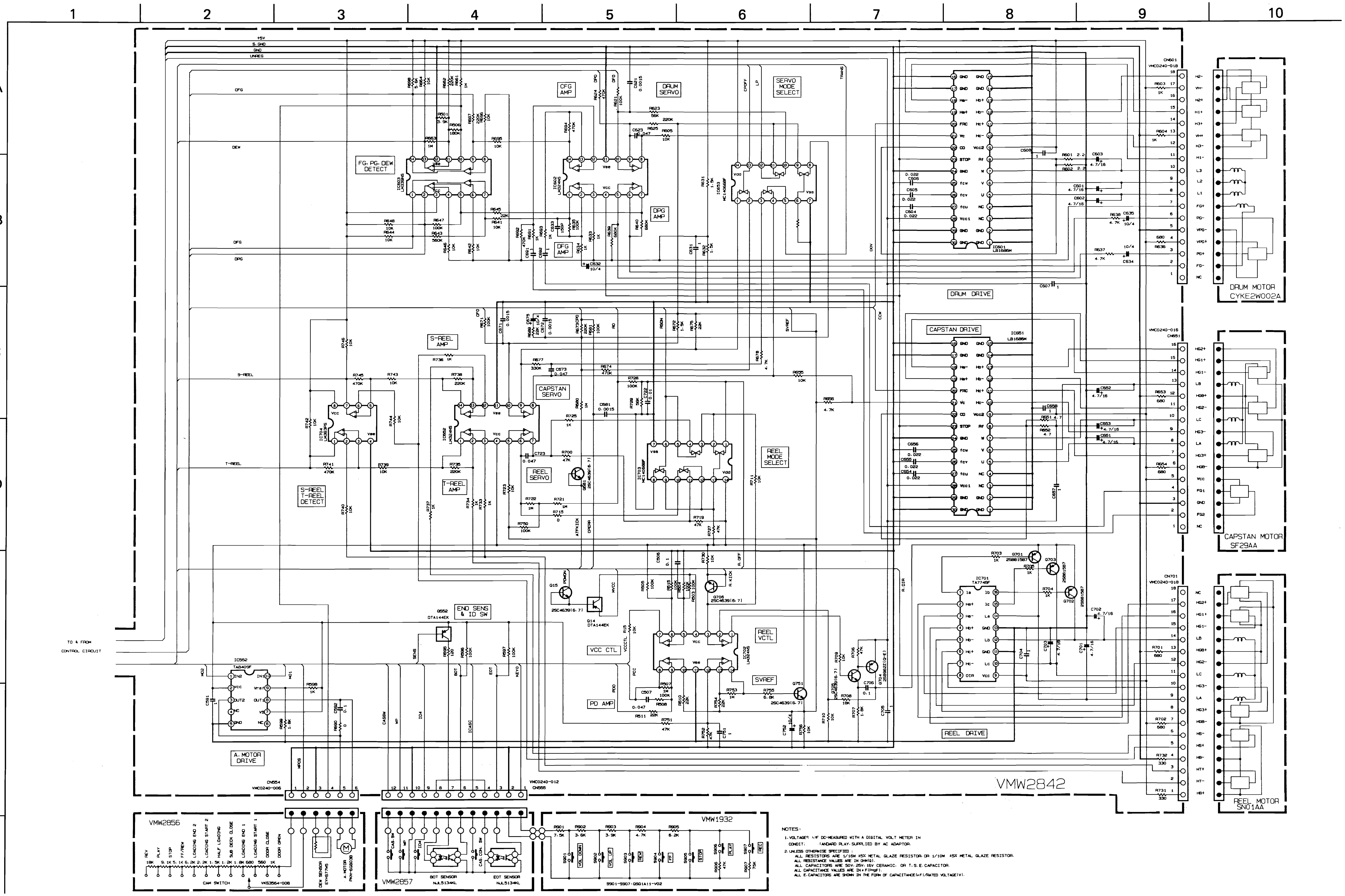
Optical Signal

Recording Signal (MIC etc.)

Recording Signal (Digital)

+B LINE

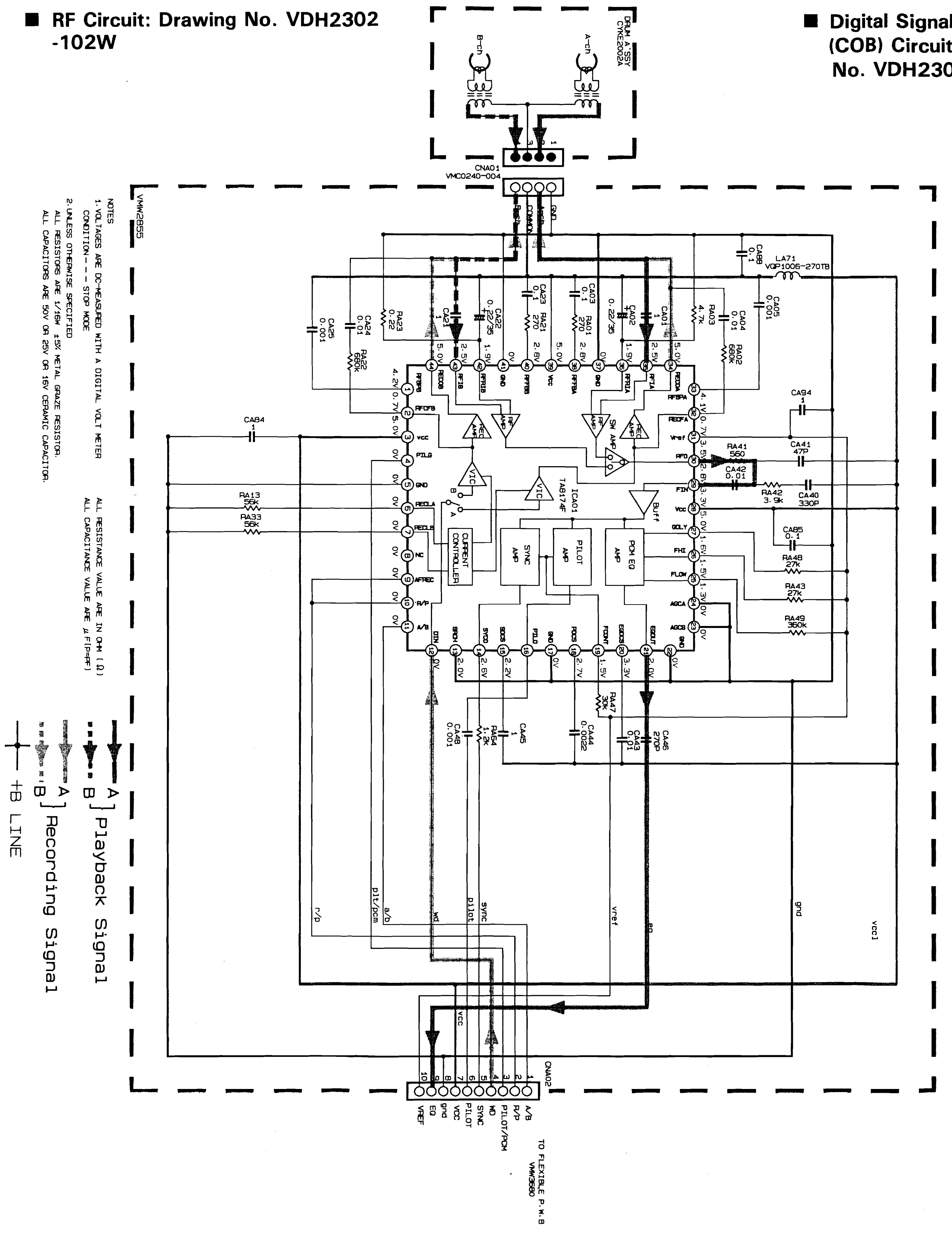
■ Servo Control Circuit: Drawing No. VDH2302-102SV


FG, PG, DEW DETECT
CFG AMP
DRUM SERVO
SERVO MODE SELECT
DFG AMP
DPG AMP
DRUM DRIVE
CAPSTAN DRIVE
S-REEL AMP
CAPSTAN SERVO
REEL SERVO
T-REEL AMP
S-REEL T-REEL DETECT
REEL MODE SELECT
END SENS & ID SW
VCC CTL
REEL VCTL
SVREF
PD AMP
REEL DRIVE
A. MOTOR DRIVE
TO & FROM CONTROL CIRCUIT
DRUM MOTOR CYKE2W002A
CAPSTAN MOTOR SF29AA
REEL MOTOR SN01AA
VMW2842
VMW2856
VMW2857
VMW1932
CAM SWITCH
BOT SENSOR
EOT SENSOR

NOTES:

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER IN CONDIT: [illegible]TANDARD PLAY. SUPPLIED BY AC ADAPTOR.
2. UNLESS OTHERWISE SPECIFIED :
   ALL RESISTORS ARE 1/16W ±5% METAL GLAZE RESISTOR. OR 1/10W ±5% METAL GLAZE RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE 50V, 25V, 16V CERAMIC. OR T.S.E. CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN µF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(µF)/RATED VOLTAGE(V).

■ RF Circuit: Drawing No. VDH2302 -102W

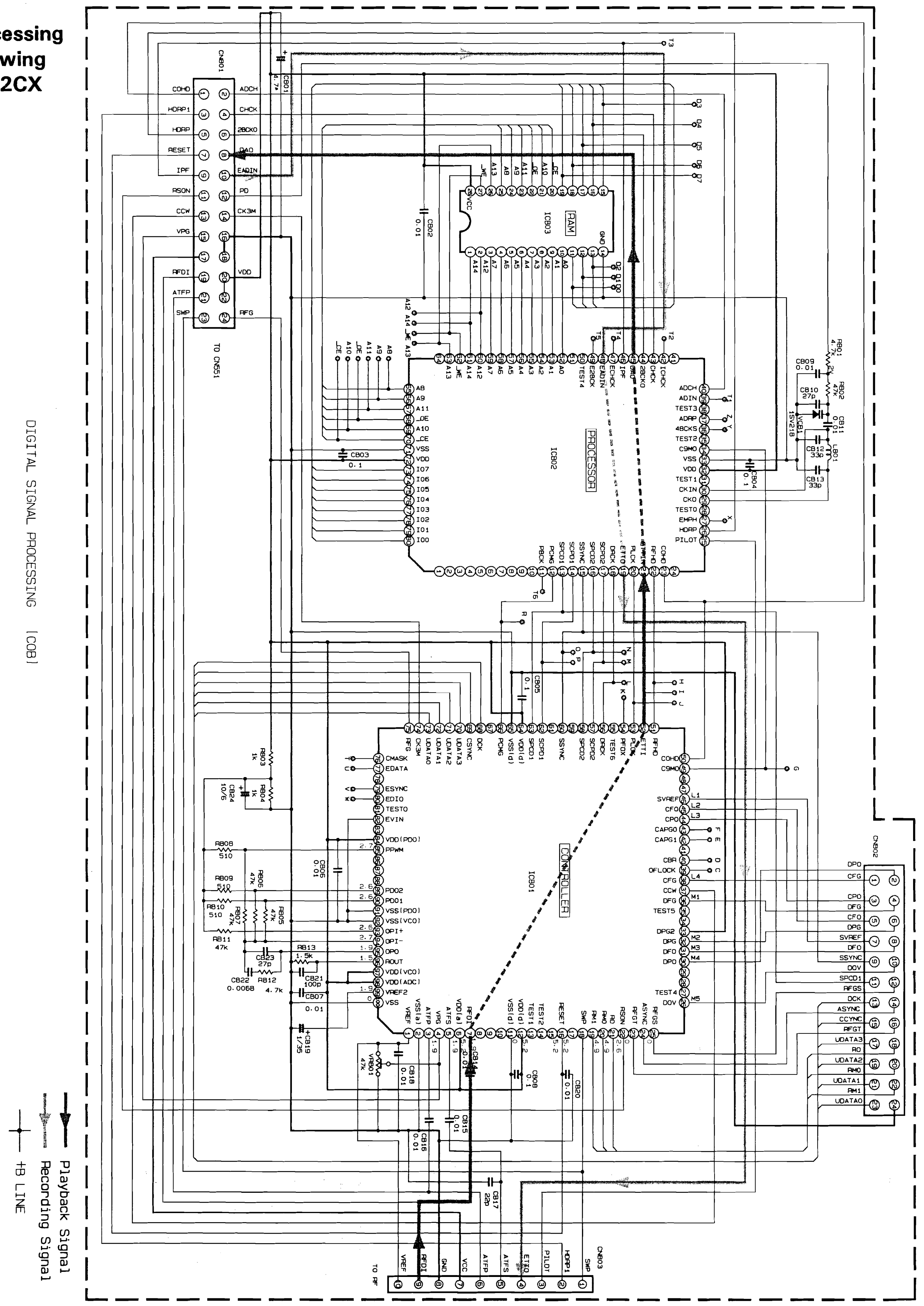

VMW2855
DRUM ASSY CXE2002A
A-ch
B-ch
CNA01 VMC0240-004
ICA01 TA8174F
VIC
CURRENT CONTROLLER
SYNC AMP
PILOT AMP
PCM EQ AMP
Buff
LA71 VQP1006-270TB
CNA02
TO FLEXIBLE P.W.B VMW3680
A/B
R/P
PILOT/PCM
NO
SYNC
PILOT
VCC
gnd
EQ
VREF

NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
CONDITION - - - STOP MODE
2. UNLESS OTHERWISE SPECIFIED
ALL RESISTORS ARE 1/16W ±5% METAL GRAZE RESISTOR.
ALL CAPACITORS ARE 50V OR 25V OR 16V CERAMIC CAPACITOR.

ALL RESISTANCE VALUE ARE IN OHM (Ω)
ALL CAPACITANCE VALUE ARE μF(P=pF)

A] B] Playback Signal
A] B] Recording Signal
+B LINE

■ Digital Signal Processing (COB) Circuit: Drawing No. VDH2302-102CX


CN801
TO CN651
IC803 RAM
IC802 PROCESSOR
IC801 CONTROLLER
CN802
CN803
TO RF

DIGITAL SIGNAL PROCESSING [COB]

Playback Signal
Recording Signal
+B LINE

■ XD-P1PRO IC Pin Function

■ IC501

Pin No.	Name	Function	I/O
1	NC	For Test	IN↑
2	TEST02		OUT
3	TEST01		OUT
4	MODE1	Test Mode Setting (Normality "H")	IN↑
5	MODE2	〃	IN↑
6	MODE3	〃	IN↑
7	MODE4	〃	IN↑
8	NC		IN↑
9	NC	Test Terminal (Normality "H")	IN
10	NC	〃	IN
11	NC		IN↑
12	GND		
13	NOR 0	Take NOR of 71 and 72 pins	OUT
14	ADD	Data from ADC	IN
15	HDRP1	RP change signal	OUT
16	NC		OUT
17	F128	128Fs	OUT
18	LPF	Fs 32K→ ‘L’ 44.1K,48k→ ‘H’	OUT
19	DAD	DAC DATA	OUT
20	BCK	DAC BIT CLOCK	OUT
21	RL	DAC CHANNEL CLOCK	OUT
22	F256	256Fs	OUT
23	NC		OUT
24	NC		OUT
25	NC		OUT
26	FF2	Middle signal for HDRP1 making	OUT
27	NC		IN↑
28	NC		IN↑
29	NC		IN↑
30	FSCHG	If FS vary in DIGITAL-IN, 'H'	OUT
31	KICKEN	The signal draw out ASYNC	OUT
32	GMDATA	Data to Microcomputer	OUT
33	VCC		
34	MGDATA	Data from Microcoputer	IN
35	MGCLK	Communication clock from Microcomputer	IN
36	MGEN	'H' when communication with Microcomputer	IN
37	PDSEL1	Select of standard signal synchro with LSI	IN
38	PDSEL0	〃	IN
39	RSEL	Initialize of reel servo	IN
40	FSEN	FS vary inable (DIGITAL-IN)	IN
41	PMUTE	Mute in 'H'	OUT
42	NC		
43	C1E	C1ERROR or CFG	OUT
44	C1ESEL	Select CIE output contents	IN
45	TEST6		IN
46	COHD	'30 m seconds' when SP	IN
47	SSYNC		IN
48	SPCD1	(from LSI)	IN
49	DAO	Playback data (from LSI)	IN
50	2BCKO	LSI BIT CLOCK	IN

Pin No.	Name	Function	I/O
51	CHCK	LSI Channel clock 2	IN
52	GND		
53	ADCH	LSI Channel clock 1	IN
54	CK3M	3.136MHz (from LSI)	IN
55	ASYNC	ATF-SYNC Detection Pulse (from LSI)	IN
56	SR	SUPPLY REEL PULSE (from sens)	IN
57	TR	TAKE-UP REEL PULSE (from sens)	IN
58	CFG	CAPSTAN FG	IN
59	NAND 1		IN
60	NAND 0		IN
61	EADIN	Recording signal to LSI	OUT
62	UNLOCK	'1' when DIGITAL-IN is UNLOCK	OUT
63	RFGT	REEL PULSE (to LSI)	OUT
64	RFGS	〃	OUT
65	PD	Phase comparison output with LSI	O3S
66	HDRPT	Connect to FF2(26 pin)	IN
67	HDRP	RP change	IN
68	DCSR	DC servo for ADC (R)	OUT
69	DCSL	DC servo for ADC (L)	OUT
70	TX	DIGITAL-OUT	OUT
71	DINSEL	Digital input select signal	IN
72	COAX	Coaxitial signal	IN
73	VCC		
74	MRST	Reset in 'L'	IN
75	NC		IN↑
76	COHD	Frame signal of signal disposition LSI	IN
77	RX	DIGITAL-IN input	IN
78	HDMSK	Timing control when RP is changing	IN↑
79	MODEO	Test Mode Setting (Normality "H")	IN
80	MCK	36.864MHz	IN

↑ is with Pulup Resister

■ IC551

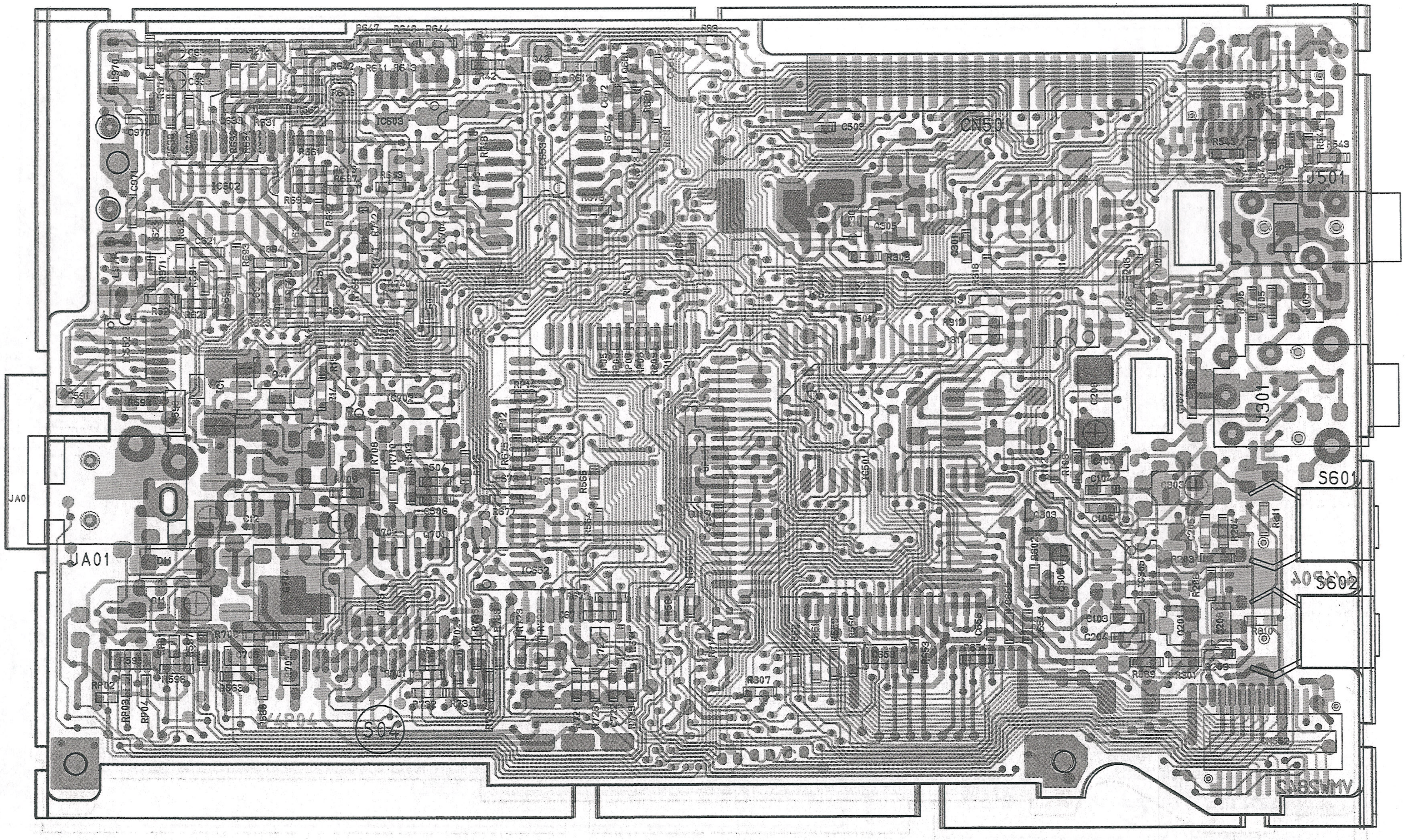
Pin No.	Name	Function	I/O
1	AN0	KEY0 STOP PLAY PAUSE	IN
2	AVREF		
3	Vdd		
4	Vdd		
5	P113	KEYHLD L=Main unit key ignore	IN
6	P112	FSCHG	IN
7	P111	BATT H=normal L=No battery	IN
8	P110	ADON H=Main unit only L=AD exist	IN
9	P103	MO2 2 CAM MOTOR L=STOP, H=UNLOAD, L=LOAD	OUT
10	P102	MO1 2 CAM MOTOR L=STOP, H=UNLOAD, L=LOAD	OUT
11	P101	ATF KICK KICK output when LP.W-SCAN	OUT
12	P100	LP DRUM GAIN CONTROL OUTPUT	OUT
13	P93	TRANS CAPSTAN SERVO DUNPING OUTPUT	OUT
14	P92	'L' when use AD ADDWN	OUT
15	P91	NC	OUT
16	P90	DCS OUT	OUT
17	SI1/P83	ANA/DIG 'H'=DIGITAL	IN
18	SO1/P82	SOL Digital Filter/LCD Driver	OUT
19	SCK/P81	SCK Digital Filter/LCD Driver	OUT
20	PP0/P80	SP/LP REC/REC PAUSE Mute Setting H=LP	IN
21	KR7/P73	MGEN Gate Alay for comminucation	OUT
22	K8/P72	LCS LCD driver 'H' when communication	OUT
23	KR5/P71	MLE Digital-Filter lutch in L→H	OUT
24	KR4/P70	MUTE Digital/Analog output mute Mute in 'H'	OUT
25	KR3/P63	Kicken LP-WSCAN Unlock detect input	IN
26	KR2/P62	CDEW Moisturing: L	IN
27	KR1/P61	TEST1	IN
28	KR0/P60	TEST0 L=Error Rate	IN
29	P53	NC	OUT
30	P52	AMUTE Analog mute in 'L'	OUT
31	P51	CSYNC TC9225AG (COB) Communication line	OUT
32	P50	DCK TC9225AG (COB) Communication line ·	OUT
33	GND		
34	P43	μ DATA2	IN/OUT
35	P42	μ DATA2	IN/OUT
36	P41	μ DATA1	IN/OUT
37	P40	μ DATA0	IN/OUT
38	P33	DCS IN	IN
39	P32	Supply Reel Pulse	IN
40	P31	C1ESEL 'H' C1ERROR 'L' capstan: FG	OUT
41	P30	RFG RF for check	IN
42	P23/DUZ	ID4 L:normal tape H:Soft tape	IN
43	P22/PCC	WP H:Cannot recording	IN
44	P21	Cassette H:no exist	IN
45	P20/PTOQ	CASC H:Cassette Up	IN
46	P13	CFG Cap FG CFG/C1E	IN
47	P12/INT2	T.REEL	IN
48	P11/INT1	SWP(RFHD) Head change signal input	IN
49	P10/INT0	COHD Servo standard signal output	IN
50	P03/SIO	Gate alay GMDATA	

Pin No.	Name	Function	I/O
51	P02/SDO	Gate alay MGDATA	
52	P01/SCK0	Gate alay MGCLK	
53	P00/INT4	POFF(Power switch input ON← →OFF Noraml 'H'	IN
54	GND		
55	XT1		
56	XT2		
57	IC		
58	X1		
59	X2		
60	RESET		
61	P143	RSEL Reel servo initialize	OUT
62	P142	PDSEL1	OUT
63	P141	PDSEL0	OUT
64	P140	FSEN FSUHG FS vary when FSCHG digital input	OUT
65	P133	HDMSK 'L' when recording	OUT
66	P132	SRES System reset Reset in 'L'	OUT
67	P131	POWON System power ON/OFF POWER ON in 'L'	OUT
68	P130	SENS Sensosr ON 'L':select	OUT
69	P123	CPOFF(P33) Capstan phase servo output Normal 'H'	OUT
70	P122	REEL F/R F-OFF:L	OUT
71	P121	RKICK REEL KICK	OUT
72	P120	ROFF REEL OFF	OUT
73	AGND		
74	AN7/P53	OPERR Capstan phase servo error voltage input	IN
75	AN6/P52	BOT 'L' when sensor detect	IN
76	AN5/P51	EOT 'L' when sensor detect	IN
77	AN4/P50	MPOS Mechanism position detection	IN
78	AN3	BATTCK Battery voltage for check	IN
79	AN2	Wired remote control	IN
80	AN1	KEY1 MODE, ENTER, EJECT	IN

Location of P.C. Board Parts

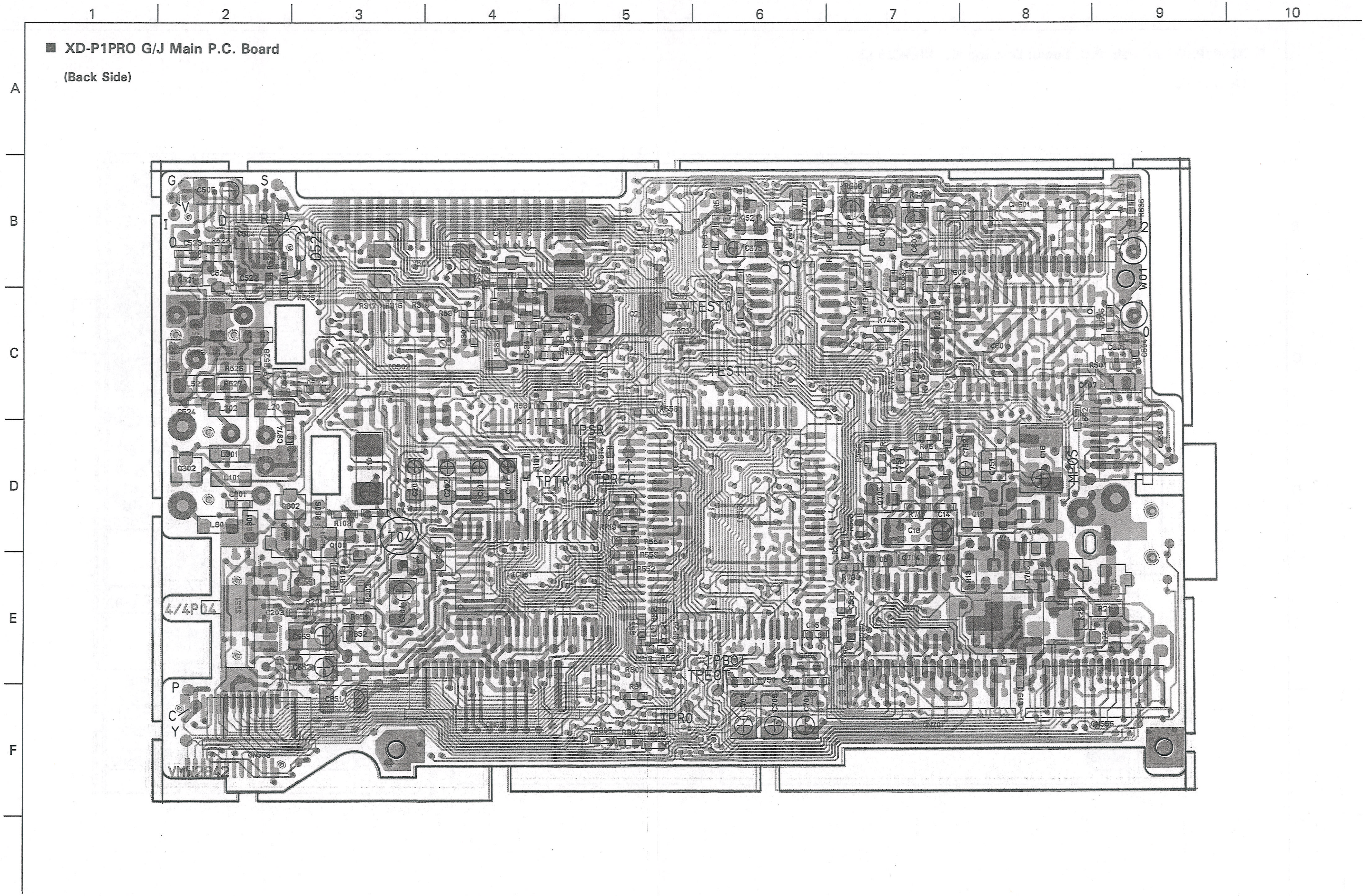
XD-P1PRO G/J Main P.C. Board: Drawing No. VMW2842

(Surface Side)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
CN501
J501
J301
S601
S602
JA01
S04
IC603
IC602
IC702
IC501
IC552
C509
C970
C971
C561
R543
R544
R807
VMW2842

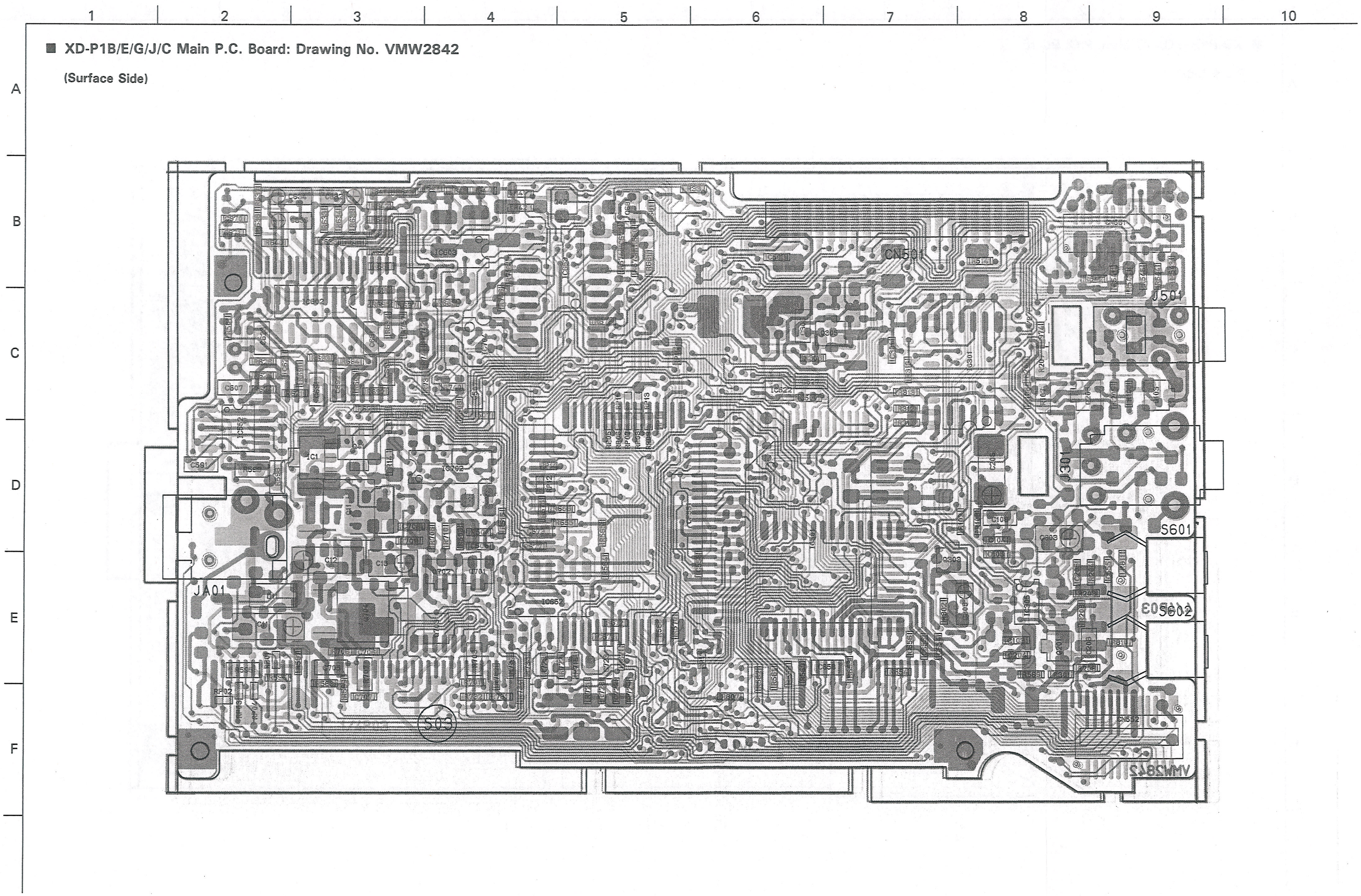
■ XD-P1PRO G/J Main P.C. Board

(Back Side)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
TEST0
TEST1
TPSR
TPTR
TPRFG
TPB01
TPE01
TPR0
MP05
W01
T02
4/4P04
VMW2842

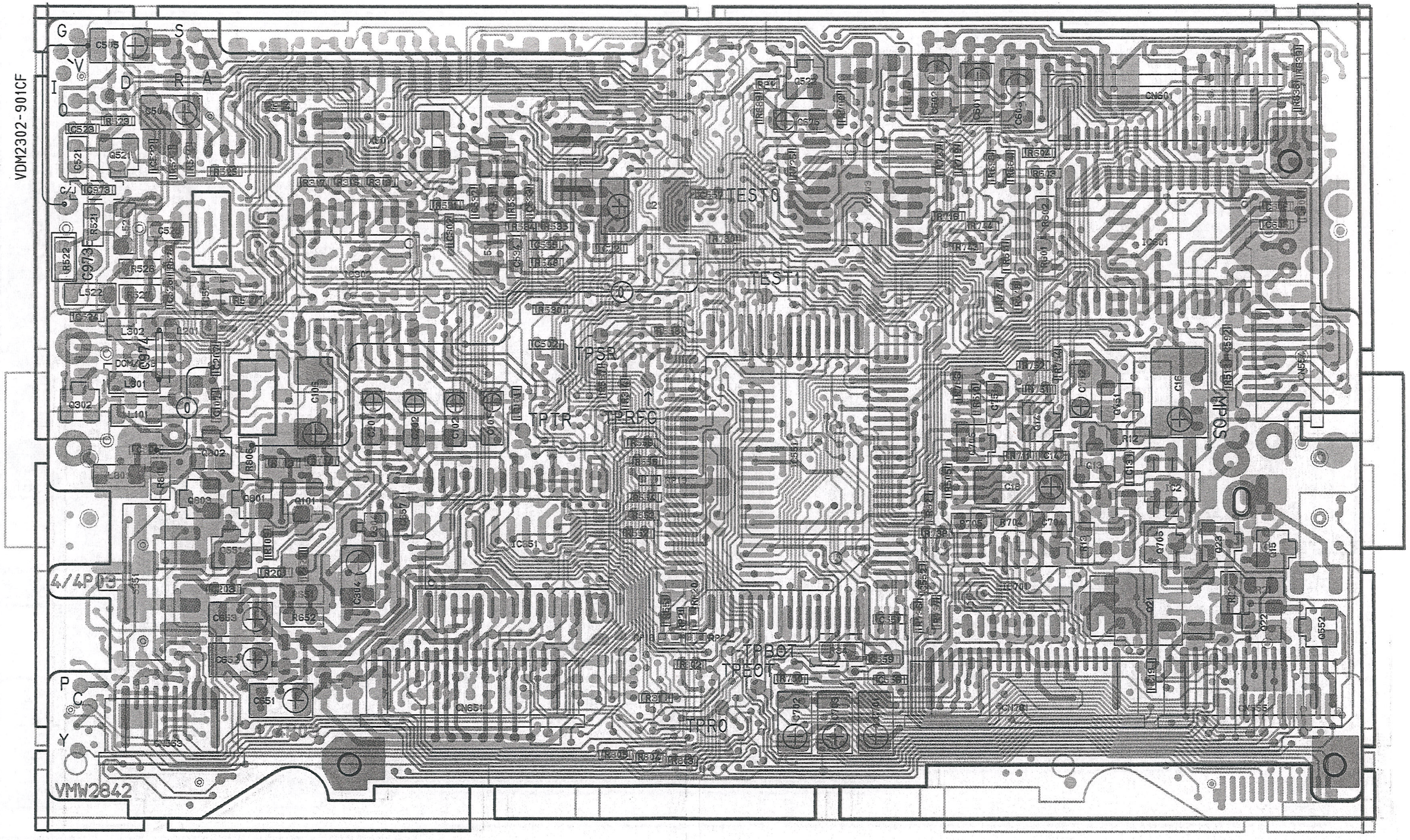
■ XD-P1B/E/G/J/C Main P.C. Board: Drawing No. VMW2842

(Surface Side)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
CN501
J501
J301
S601
S602
JA01
S03
CN552
VMW2842

XD-P1B/E/G/J/C Main P.C. Board

(Back Side)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
VDM2302-901CF
G
S
V
I
O
D
R
A
C/J
TEST0
TEST1
TPSR
TPTR
TPRFC
TPBOT
TPEOT
TPRO
VMW2842
P
C
Y
CN501
IC501
CN651
CN653
CN555
C974
C973
C18
C13
C16
C575
C651
C653
C659
IC551
IC301
4/4P03

■ Main P.C. board

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	C 11	NEF11CM-106RYH	E CAPACITOR	10MF 20% 16V
	C 12	NEF11CM-106RYH	E CAPACITOR	10MF 20% 16V
	C 13	NCF31HZ-103AY	C CAPACITOR	.010MF +80:-20%
	C 14	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 15	ECST1AX106R	E CAPACITOR	
	C 16	TA1AS476M-R	E CAPACITOR	
	C 18	NEF11CM-106RYH	E CAPACITOR	10MF 20% 16V
	C 19	NCF31HZ-103AY	C CAPACITOR	.010MF +80:-20%
	C 21	TA1AS476M-R	E CAPACITOR	FOR RF 5V
	C 22	NCB31HK-103AY	C CAPACITOR	FOR RF 5V
	C 41	NCF31HZ-103AY	C CAPACITOR	.010MF +80:-20%
	C 101	ECST1AY335R	E CAPACITOR	FOR A.+5V
	C 102	NEF10GM-475RY	TS E CAPACITOR	FOR VREF
	C 103	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	C 104	NCB31HK-222AY	C CAPACITOR	LPF
	C 105	NCS31HJ-151AY	C CAPACITOR	LPF
	C 106	TA0GS476M-R	E CAPACITOR	CUPPLING
	C 107	NCS31HJ-221AY	C CAPACITOR	220PF 5% 50V
	C 108	NCB21CK-104AY	C CAPACITOR	FOR BASS BOOST
	C 201	ECST1AY335R	E CAPACITOR	FOR A.+5V
	C 202	NEF10GM-475RY	TS E CAPACITOR	FOR VREF
	C 203	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	C 204	NCB31HK-222AY	C CAPACITOR	LPF
	C 205	NCS31HJ-151AY	C CAPACITOR	LPF
	C 206	TA0GS476M-R	E CAPACITOR	
	C 207	NCS31HJ-221AY	C CAPACITOR	220PF 5% 50V
	C 208	NCB21CK-104AY	C CAPACITOR	FOR BASS BOOST
	C 301	NCF31CZ-104AY	C CAPACITOR	FOR IC301
	C 302	NCF31CZ-104AY	C CAPACITOR	FOR IC302
	C 303	ECST1AX106R	E CAPACITOR	FOR OP-AMP
	C 304	ECST1AX106R	E CAPACITOR	MUTE POWER SUPP
	C 305	TA1AS475M-R	E CAPACITOR	FOR POWER OFF M
	C 306	NCF21HZ-104AY	C CAPACITOR	FOR POWER ON MU
	C 501	NCF31CZ-104AY	C CAPACITOR	VCC-GND
	C 502	NCF31CZ-104AY	C CAPACITOR	VCC-GND
	C 503	NCF31CZ-104AY	C CAPACITOR	VCC-GND
	C 504	ECST1AX106R	E CAPACITOR	VCC-GND
	C 505	ECST1AX106R	E CAPACITOR	VCC-GND
	C 506	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 507	NCB21EK-473AY	C CAPACITOR	PHASE COMP INTE
	C 521	NCF21CZ-105AY	C CAPACITOR	COAX IN
	C 522	NCB31HK-103AY	C CAPACITOR	COAX IN
	C 523	NCF31CZ-104AY	C CAPACITOR	COAX IN
	C 524	NCS31HJ-221AY	C CAPACITOR	COAX OUT
	C 525	NCF21CZ-105AY	C CAPACITOR	COAX OUT
	C 526	NCF31CZ-104AY	C CAPACITOR	FOR IC521
	C 527	NCF21HZ-104AY	C CAPACITOR	FOR IC522
	C 531	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 532	NCS31HD-100AY	C CAPACITOR	10PF 50V
	C 533	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	C 534	NCS21HJ-390AY	C CAPACITOR	39PF 5% 50V
	C 535	NCS31HD-100AY	C CAPACITOR	10PF 50V
	C 551	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 552	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 556	NCF31HZ-103AY	C CAPACITOR	.010MF +80:-20%
	C 557	NCF31HZ-103AY	C CAPACITOR	REMOCON-NOISE
	C 558	NCF31HZ-103AY	C CAPACITOR	POWER SW NOISE
	C 559	NCB31HK-102AY	C.CAPACITOR	EJECT KEY NOISE
	C 591	NCF21HZ-104AY	C CAPACITOR	VCC-GND
	C 592	NCF31CZ-104AY	C CAPACITOR	CAM M. FILTER
	C 601	TA1CS475M-R	E CAPACITOR	PHASE U
	C 602	TA1CS475M-R	E CAPACITOR	PHASE V
	C 603	TA1CS475M-R	E CAPACITOR	PHASE W
	C 604	NCF31EZ-223AY	C.CAPACITOR	FCU
	C 605	NCF31EZ-223AY	C.CAPACITOR	FCV
	C 606	NCF31EZ-223AY	C.CAPACITOR	FCW
	C 607	NCF21CZ-105AY	C CAPACITOR	VCC-GND
	C 608	NCF21CZ-105AY	C CAPACITOR	VCC-GND
	C 621	NCB31HK-152AY	E CAPACITOR	DFO INTEGRATION
	C 623	NCB21EK-473AY	C CAPACITOR	MIX INTEGRATION
	C 631	NCF21CZ-105AY	C CAPACITOR	AMP VREF
	C 632	TA0GS106M-R	E CAPACITOR	DFG COUPLING
	C 633	NCB31HK-151AY	C CAPACITOR	DFG HIGH CUT
	C 634	TA0GS106M-R	E CAPACITOR	DPG COUPLING
	C 635	TA0GS106M-R	E CAPACITOR	DPG COUPLING
	C 651	TA1CS475M-R	E CAPACITOR	PHASE U
	C 652	TA1CS475M-R	E CAPACITOR	PHASE V
	C 653	TA1CS475M-R	E CAPACITOR	PHASE W
	C 654	NCF31EZ-223AY	C.CAPACITOR	FCU
	C 655	NCF31EZ-223AY	C.CAPACITOR	FCV
	C 656	NCF31EZ-223AY	C.CAPACITOR	FCW
	C 657	NCF21CZ-105AY	C CAPACITOR	VCC-GND
	C 658	NCF21CZ-105AY	C CAPACITOR	VCC-GND
	C 671	NCB31HK-152AY	E CAPACITOR	CFO INTEGRATION
	C 672	NCB31HK-152AY	E CAPACITOR	CPO INTEGRATION
	C 673	NCB21EK-473AY	C CAPACITOR	MIX INTEGRATION
	C 675	TA0GS106M-R	E CAPACITOR	
	C 681	NCB31HK-152AY	E CAPACITOR	1500PF 10% 50V
	C 691	NCF21CZ-105AY	C CAPACITOR	FG DC CUT
	C 692	NCF21CZ-105AY	C CAPACITOR	FG DC CUT
	C 701	TA1CS475M-R	E CAPACITOR	PHASE U
	C 702	TA1CS475M-R	E CAPACITOR	PHASE V
	C 703	TA1CS475M-R	E CAPACITOR	PHASE W
	C 704	NCF21CZ-105AY	C CAPACITOR	VCC-GND
	C 705	NCF21CZ-105AY	C CAPACITOR	VCC-GND
	C 706	NCF31CZ-104AY	C CAPACITOR	VS
	C 722	NCB31HK-103AY	C CAPACITOR	RO INTEGRATION
	C 723	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V
	C 751	NCF21CZ-105AY	C CAPACITOR	1/2 VCC
	C 752	TA0GS106M-R	E CAPACITOR	SVREF
	C 801	NCB31HK-221AY	C CAPACITOR	220PF 10% 50V
	C 970	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 971	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 973	NCB31HK-221AY	C CAPACITOR	220PF 10% 50V
	C 974	NCS31HJ-221AY	C CAPACITOR	220PF 5% 50V
	CF551	C4CB04194M00-R	CERAMIC RESONAT	OSC
	CN501	VMC0250-S20	CONNECTOR	TO A/D UNIT
	CN551	VMC0241-P24H	CONNECTOR	FOR COB
	CN552	VMC0256-024	CONNECTOR	FOR COB
	CN553	VMC0240-008	CONNECTOR	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	CN554	VMC0240-006	CONNECTOR	MAIN DECK
	CN555	VMC0240-012	CONNECTOR	SUB DECK
	CN601	VMC0240-018-T	CONNECTOR	DRUM MOTOR
	CN651	VMC0240-016	CONNECTOR	CAP MOTOR
	CN701	VMC0240-018-T	CONNECTOR	REEL MOTOR
⚠	D 11	DSM10E	SI DIODE	FOR DC 9V
	D 521	MA165	SI DIODE	Q521 COMPENSATI
	IC 1	RH5VA54AA	IC	VOLTAGE SENSOR
	IC 2	S-87050CF	IC	+5V REG WITH RE
	IC301	SM5840BS	IC	D.FILTER
	IC302	AD1868R	IC(DAC)	DAC
	IC305	NJM3414M	IC	H.P.AMP
	IC501	JCV4003A	IC	DIGITAL I/O
	IC521	SC7S08F-W	IC CMOS	COAX OUT DRIVE
	IC522	SC7S02F-W	IC	DIGITAL INPUT S
	IC551	UPD75516GF-243	I.C(MICRO-COMP)	XD-P1
	IC551	UPD75P516GF-P1	IC	XD-P1PRO
	IC552	TA8409F	IC	CAM MOTOR DRIVE
	IC601	LB1686M	IC	DRUM DRIVE
	IC602	LM324NS	IC	MIX,FG,PG AMP
	IC603	LM339NS	IC	COMPARATOR
	IC651	LB1686M	IC	CAP DRIVE
	IC652	LM324NS	IC	CAP SERVO
	IC653	MC14066BF	IC	MODE CHANGE SW
	IC701	TA7745F	IC	REEL DRIVE
	IC702	LM324NS	IC	DRIVE BUFFER
	IC703	MC14066BF	I C	MODE CHANGE SW
	IC704	LM393PS	IC	REEL PULSE COMP
	J 301	J-EC385AGMB2	JACK	HEADPHONE JACK
	J 501	VMJ4029-101	JACK	DIGITAL I/O
	JA 01	QMA331B-V01	DC JACK	DC JACK
	L 21	VQP1004-271	INDUCTOR	FOR RF 5V
	L 101	VQP1005-4R7	INDUCTOR	
	L 201	VQP1005-4R7	INDUCTOR	
	L 301	NRS181J-ORONY	MG RESISTOR	5% 1/8W
	L 302	VQP1005-4R7	INDUCTOR	
	L 521	VQP1005-4R7	INDUCTOR	
	L 522	VQP1005-4R7	INDUCTOR	
	L 531	VQP1006-R47Z	INDUCTOR	FOR X'TAL
	L 801	VQP1005-4R7	INDUCTOR	
	L 970	VQP1008-1R0	INDUCTOR	+B LINE
	L 971	VQP1008-1R0	INDUCTOR	-B LINE
	Q 11	2SB1202(S)	T.R	+5V POWER TR
	Q 13	2SC4639(6,7)	RANSISTOR	+5V REG CIRCUIT
	Q 14	DTA144EK	TRANSISTOR	
	Q 15	2SC4639(6,7)	RANSISTOR	
	Q 21	2SB962Z(Q-E)	TRANSISTOR	UNREG +B
	Q 22	DTC144EK	TRANSISTOR	
	Q 23	DTA144EK	TRANSISTOR	
	Q 41	2SC4390	TRANSISTOR	GND SW
	Q 42	DTA144EK	TRANSISTOR	CURRENT SW
	Q 101	2SK303V4-HL	TRANSISTOR	
	Q 103	2SD1328(S,T)	TRANSISTOR	MUTE
	Q 201	2SK303V4-HL	TRANSISTOR	
	Q 203	2SD1328(S,T)	TRANSISTOR	MUTE

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	Q 302	DTA144EK	TRANSISTOR	MUTE DRIVE
	Q 303	2SC4639(6,7)	RANSISTOR	MUTE POWER SUPP
	Q 304	2SD1819	TRANSISTOR	FOR POWER OFF M
	Q 305	2SA1781(6,7)	TRANSISTOR	FOR POWER ON MU
	Q 521	2SA1781(6,7)	TRANSISTOR	FOR COAX IN AMP
	Q 522	DTC144EK	TRANSISTOR	DIGITAL INPUT S
	Q 531	2SC4639(6,7)	RANSISTOR	FOR X'TAL
	Q 551	2SC4639(6,7)	RANSISTOR	
	Q 552	DTA114EK	TRANSISTOR	SENS ON
	Q 681	2SC4639(6,7)	RANSISTOR	ATF KICK
	Q 701	2SB815B7-T-HL	TRANSISTOR	PHASE A
	Q 702	2SB815B7-T-HL	TRANSISTOR	PHASE B
	Q 703	2SB815B7-T-HL	TRANSISTOR	PHASE C
	Q 704	2SB962Z(Q-E)	TRANSISTOR	VS
	Q 705	2SC4639(6,7)	RANSISTOR	VS
	Q 706	2SC4639(6,7)	RANSISTOR	REEL KICK
	Q 751	2SC4639(6,7)	RANSISTOR	SVREF DRIVE
	Q 801	DTA144EK	TRANSISTOR	COMPU LINK OUT
	Q 802	DTC144EK	TRANSISTOR	COMPU LINK IN
	Q 803	2SC4639(6,7)	RANSISTOR	
	R 13	NRSA02J-181NY	MG REGISTOR	180 5% 1/10W
	R 14	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 15	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 21	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W
	R 22	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W
	R 31	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 32	NRSA63J-473NY	MG RESISTOR	FOR IC1
	R 33	NRSA63J-104NY	MG RESISTOR	BATT VOLTAGE SE
	R 41	NRSA63J-183NY	MG RESISTOR	FOR POWER OFF M
	R 42	NRSA63J-182NY	MG RESISTOR	FOR POWER ON MO
	R 101	NRSA63J-332NY	MG RESISTOR	3.3K 5%
	R 102	NRSA63J-152NY	MG RESISTOR	1.5K 5%
	R 103	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	R 104	NRSA63J-223NY	MG RESISTOR	22K 5%
	R 105	NRSA63J-102NY	MG RESISTOR	1.0K 5%
	R 106	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 107	NRSA02J-220NY	MG RESISTOR	22 5% 1/10W
	R 108	NRSA63J-562NY	MG RESISTOR	5.6K 5%
	R 109	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 110	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 201	NRSA63J-332NY	MG RESISTOR	3.3K 5%
	R 202	NRSA63J-152NY	MG RESISTOR	1.5K 5%
	R 203	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	R 204	NRSA63J-223NY	MG RESISTOR	22K 5%
	R 205	NRSA63J-102NY	MG RESISTOR	1.0K 5%
	R 206	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 207	NRSA02J-220NY	MG RESISTOR	22 5% 1/10W
	R 208	NRSA63J-562NY	MG RESISTOR	5.6K 5%
	R 209	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 210	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 301	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 302	NRSA63J-104NY	MG RESISTOR	FOR POWER OFF M
	R 303	NRSA63J-223NY	MG RESISTOR	FOR POWER ON MU
	R 311	NRSA63J-471NY	MG RESISTOR	470 5%
	R 312	NRSA63J-471NY	MG RESISTOR	470 5%

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	R 313	NRSA63J-471NY	MG RESISTOR	470 5%
	R 314	NRSA63J-471NY	MG RESISTOR	470 5%
	R 316	NRSA63J-681NY	MG RESISTOR	680 5%
	R 317	NRSA63J-471NY	MG RESISTOR	470 5%
	R 318	NRSA63J-471NY	MG RESISTOR	470 5%
	R 319	NRSA63J-471NY	MG RESISTOR	470 5%
	R 501	NRSA63J-184NY	MG RESISTOR	180K 5%
	R 503	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 504	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 505	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 506	NRSA63J-392NY	MG RESISTOR	3.9K 5%
	R 507	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 508	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 510	NRSA63J-223NY	MG RESISTOR	22K 5%
	R 511	NRSA63J-223NY	MG RESISTOR	22K 5%
	R 515	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 521	NRSA02J-101NY	MG RESISTOR	COAX IN
	R 522	NRSA02J-151NY	MG RESISTOR	COAX IN
	R 523	NRSA63J-102NY	MG RESISTOR	COAX IN
	R 524	NRSA63J-153NY	MG RESISTOR	COAX IN
	R 525	NRSA63J-102NY	MG RESISTOR	COAX IN
	R 526	NRSA02J-100NY	MG RESISTOR	COAX OUT
	R 527	NRSA02J-820NY	MG RESISTOR	COAX OUT
	R 528	NRSA63J-301NY	MG RESISTOR	COAX OUT
	R 529	NRSA63J-393NY	MG RESISTOR	COAX IN
	R 530	NRSA63J-104NY	MG RESISTOR	DIGITAL INPUT S
	R 531	NRSA63J-105NY	MG RESISTOR	FOR X'TAL
	R 533	NRSA63J-271NY	MG RESISTOR	270 5%
	R 534	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 535	NRSA63J-334NY	MG RESISTOR	330K 5%
	R 541	NRSA63J-471NY	MG RESISTOR	470 5%
	R 542	NRSA63J-222NY	MG RESISTOR	2.2K 5%
	R 543	NRSA63J-471NY	MG RESISTOR	470 5%
	R 544	NRSA63J-471NY	MG RESISTOR	470 5%
	R 545	NRSA63J-471NY	MG RESISTOR	470 5%
	R 546	NRSA63J-471NY	MG RESISTOR	470 5%
	R 547	NRSA63J-471NY	MG RESISTOR	470 5%
	R 548	NRSA63J-101NY	MG RESISTOR	100 5%
	R 551	NRSA63J-471NY	MG RESISTOR	470 5%
	R 552	NRSA63J-471NY	MG RESISTOR	470 5%
	R 553	NRSA63J-471NY	MG RESISTOR	470 5%
	R 554	NRSA63J-471NY	MG RESISTOR	470 5%
	R 555	NRSA63J-471NY	MG RESISTOR	470 5%
	R 556	NRSA63J-471NY	MG RESISTOR	470 5%
	R 557	NRSA63J-471NY	MG RESISTOR	470 5%
	R 558	NRSA63J-471NY	MG RESISTOR	470 5%
	R 559	NRSA63J-471NY	MG RESISTOR	470 5%
	R 560	NRSA63J-471NY	MG RESISTOR	470 5%
	R 561	NRSA63J-471NY	MG RESISTOR	470 5%
	R 562	NRSA63J-471NY	MG RESISTOR	470 5%
	R 563	NRSA63J-333NY	MG RESISTOR	33K 5%
	R 564	NRSA63J-333NY	MG RESISTOR	33K 5%
	R 565	NRSA63J-333NY	MG RESISTOR	33K 5%
	R 568	NRVA62D-682NY	MG RESISTOR	6.8K
	R 569	NRSA63J-473NY	MG RESISTOR	47K 5%

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	R 570	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 589	NRSA63J-223NY	MG RESISTOR	22K 5%
	R 595	NRSA02J-121NY	MG RESISTOR	BOT LED
	R 596	NRSA63J-104NY	MG RESISTOR	BOT OUT
	R 597	NRSA63J-104NY	MG RESISTOR	EOT OUT
	R 598	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W
	R 599	NRSA02J-182NY	MG RESISTOR	1.8K 5% 1/10W
	R 601	NRSA02K-2R2NY	MF RESISTOR	RF
	R 602	NRSA02K-2R2NY	MF RESISTOR	RF
	R 603	NRSA63J-102NY	MG RESISTOR	HG BIAS
	R 604	NRSA63J-102NY	MG RESISTOR	HG BIAS
	R 605	NRSA63J-103NY	MG RESISTOR	VCONTROL
	R 613	NRSA63J-0R0NY	MG RESISTOR	CPO SW OFF
	R 621	NRSA63J-104NY	MG RESISTOR	DFO INTEGRATION
	R 623	NRSA63J-563NY	MG RESISTOR	DFO GAIN
	R 624	NRSA63J-474NY	MG RESISTOR	DPO INTEGRATION
	R 625	NRSA63J-224NY	MG RESISTOR	DPO GAIN
	R 631	NRSA63J-152NY	MG RESISTOR	AMP VREF
	R 632	NRSA63J-152NY	MG RESISTOR	AMP VREF
	R 633	NRSA63J-102NY	MG RESISTOR	DFG
	R 634	NRSA63J-102NY	MG RESISTOR	DFG
	R 635	NRSA63J-104NY	MG RESISTOR	DFG AMP GAIN
	R 636	NRSA63J-681NY	MG RESISTOR	PG BIAS
	R 637	NRSA63J-472NY	MG RESISTOR	PG IN
	R 638	NRSA63J-472NY	MG RESISTOR	PG IN
	R 639	NRSA63J-684NY	MG RESISTOR	PG IN+BIAS
	R 640	NRSA63J-684NY	MG RESISTOR	PG AMP GAIN
	R 641	NRSA63J-103NY	MG RESISTOR	FG COMP
	R 642	NRSA63J-103NY	MG RESISTOR	FG COMP
	R 643	NRSA63J-564NY	MG RESISTOR	FG HYS
	R 644	NRSA63J-103NY	MG RESISTOR	FG COMP PULL UP
	R 645	NRSA63J-223NY	MG RESISTOR	PG COMP
	R 646	NRSA63J-103NY	MG RESISTOR	PG COMP
	R 647	NRSA63J-683NY	MG RESISTOR	PG COMP
	R 648	NRSA63J-103NY	MG RESISTOR	PG COMP PULL UP
	R 651	NRSA02J-4R7NY	MG RESISTOR	RF
	R 652	NRSA02J-4R7NY	MG RESISTOR	RF
	R 653	NRSA63J-681NY	MG RESISTOR	HG BIAS
	R 654	NRSA63J-681NY	MG RESISTOR	HG BIAS
	R 655	NRSA63J-103NY	MG RESISTOR	VCONTROL
	R 656	NRSA63J-472NY	MG RESISTOR	V CONTROL
	R 661	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 662	NRSA63J-224NY	MG RESISTOR	220K 5%
	R 663	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 664	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 671	NRSA63J-104NY	MG RESISTOR	CFO INTEGRATION
	R 672	NRSA63J-152NY	MG RESISTOR	1.5K 5%
	R 673	NRSA63J-224NY	MG RESISTOR	220K 5%
	R 674	NRSA63J-474NY	MG RESISTOR	470K 5%
	R 675	NRSA63J-223NY	MG RESISTOR	22K 5%
	R 677	NRSA63J-334NY	MG RESISTOR	330K 5%
	R 678	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	R 680	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 681	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 689	NRSA63J-223NY	MG RESISTOR	22K 5%

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	R 691	NRSA63J-102NY	MG RESISTOR	FG AMP INPUT
	R 692	NRSA63J-474NY	MG RESISTOR	FG AMP
	R 693	NRSA63J-102NY	MG RESISTOR	FG AMP
	R 694	NRSA63J-474NY	MG RESISTOR	FG AMP
	R 695	NRSA63J-103NY	MG RESISTOR	FG COMP
	R 696	NRSA63J-103NY	MG RESISTOR	FG COMP
	R 697	NRSA63J-224NY	MG RESISTOR	FG COMP
	R 698	NRSA63J-562NY	MG RESISTOR	FG COMP
	R 700	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 701	NRSA63J-681NY	MG RESISTOR	HG BIAS
	R 702	NRSA63J-681NY	MG RESISTOR	HG BIAS
	R 703	NRSA02J-102NY	MG RESISTOR	PHASE A
	R 704	NRSA02J-102NY	MG RESISTOR	PHASE B
	R 705	NRSA02J-102NY	MG RESISTOR	PHASE C
	R 706	NRSA63J-473NY	MG RESISTOR	VSCONTROL
	R 707	NRSA02J-182NY	MG RESISTOR	VSCONTROL
	R 708	NRSA63J-183NY	MG RESISTOR	VSCONTROL
	R 709	NRSA63J-103NY	MG RESISTOR	VSCONTROL
	R 710	NRSA63J-103NY	MG RESISTOR	VSCONTROL
	R 711	NRSA63J-103NY	MG RESISTOR	VSCONTROL
	R 719	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 721	NRSA63J-105NY	MG RESISTOR	RO INTEGRATION
	R 722	NRSA63J-105NY	MG RESISTOR	RO GAIN
	R 723	NRSA63J-103NY	MG RESISTOR	RO AMP GAIN
	R 725	NRSA63J-102NY	MG RESISTOR	RO AMP -INPUT
	R 727	NRSA63J-104NY	MG RESISTOR	KICK
	R 728	NRSA63J-104NY	MG RESISTOR	CONST.TORQUE
	R 729	NRSA63J-563NY	MG RESISTOR	CONST.TORQUE
	R 730	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 731	NRSA63J-331NY	MG RESISTOR	REEL HALL BIAS
	R 732	NRSA63J-331NY	MG RESISTOR	REEL HALL BIAS
	R 733	NRSA63J-102NY	MG RESISTOR	T INPUT
	R 734	NRSA63J-102NY	MG RESISTOR	T INPUT
	R 735	NRSA63J-224NY	MG RESISTOR	T AMP GAIN
	R 736	NRSA63J-102NY	MG RESISTOR	S INPUT
	R 737	NRSA63J-102NY	MG RESISTOR	S INPUT
	R 738	NRSA63J-224NY	MG RESISTOR	S AMP GAIN
	R 739	NRSA63J-103NY	MG RESISTOR	T COMP INPUT
	R 740	NRSA63J-103NY	MG RESISTOR	T COMP THRESHOL
	R 741	NRSA63J-474NY	MG RESISTOR	T COMP HYS
	R 742	NRSA63J-103NY	MG RESISTOR	T COMP OUT PULL
	R 743	NRSA63J-103NY	MG RESISTOR	S COMP INPUT
	R 744	NRSA63J-103NY	MG RESISTOR	S COMP THRESHOL
	R 745	NRSA63J-474NY	MG RESISTOR	S COMP HYS
	R 746	NRSA63J-103NY	MG RESISTOR	S COMP OUT PULL
	R 750	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 751	NRSA63J-473NY	MG RESISTOR	1/2 VCC
	R 752	NRSA63J-473NY	MG RESISTOR	1/2 VCC
	R 753	NRSA63J-105NY	MG RESISTOR	1/2 VCC
	R 754	NRSA63J-223NY	MG RESISTOR	1/2 VCC
	R 755	NRSA63J-682NY	MG RESISTOR	1/2 VCC
	R 756	NRSA63J-103NY	MG RESISTOR	1/2 VCC
	R 801	NRSA02J-151NY	MG RESISTOR	150 5% 1/10W
	R 802	NRSA63J-101NY	MG RESISTOR	100 5%
	R 803	NRSA63J-101NY	MG RESISTOR	100 5%

BLOCK NO. 01

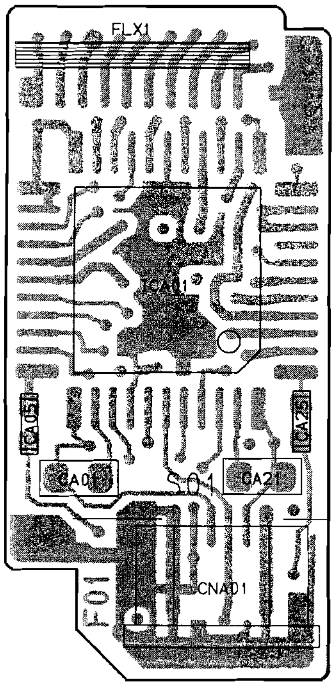
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	R 804	NRSA63J-101NY	MG RESISTOR	100 5%
	R 805	NRSA63J-101NY	MG RESISTOR	100 5%
	R 806	NRSA02J-473NY	MG REGISTOR	47K 5% 1/10W
	R 807	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 810	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 811	NRSA63J-822NY	MG RESISTOR	8.2K 5%
	RP 01	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 02	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 03	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 04	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 05	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 06	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 07	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 08	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 09	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 10	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 11	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 12	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 13	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 14	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 15	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 16	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 17	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 18	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 19	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 20	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 21	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	RP 22	NRSA6AJ-473AY	MG RESISTOR	PULL UP
	S 551	VSS0912-001	SLIDE SW	POWER
	S 601	QSP0301-009	TACT SWITCH	SELECT SW
	S 602	QSP0301-009	TACT SWITCH	ENTER SW
	X 501	VCX5046-001	CRYSTAL	36.864MHZ

■ COB P.C. board

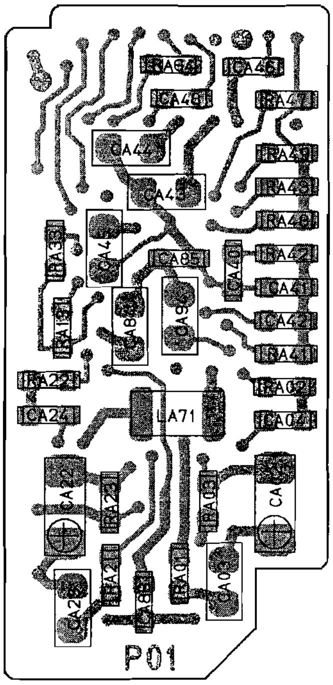
BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	CB 01	ECST1AY475R	TS.E.CAPACITOR	
	CB 02	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	CB 03	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	CB 04	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	CB 05	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	CB 06	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	CB 07	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	CB 08	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	CB 09	NCB31HK-103AY	C CAPACITOR	VXO LOOPFILTER
	CB 10	NCT06CH-270AY	C CAPACITOR	VXO ADJ.CAP
	CB 11	NCB31HK-103AY	C CAPACITOR	VXO COUPLING
	CB 12	NCT06CH-330AY	C CAPACITOR	VXO GEN
	CB 13	NCT06CH-330AY	C CAPACITOR	VXO GEN
	CB 14	NCB31HK-103AY	C CAPACITOR	RFDI COUPLING
	CB 15	NCB31HK-103AY	C CAPACITOR	ATFS COUPLING
	CB 16	NCB31HK-103AY	C CAPACITOR	ATFP COUPLING
	CB 17	NCT06CH-220AY	C CAPACITOR	ATFS NOISE CUT
	CB 18	NCB31HK-103AY	C CAPACITOR	VREF PASS CON
	CB 19	ECST1VB105R	TS.E.CAPACITOR	VREF2 PASS CON
	CB 20	NCB31HK-103AY	C CAPACITOR	FOR RESET
	CB 21	NCT06CH-101AY	CAPACITOR	100PF +50:-10%
	CB 22	NCB31HK-682AY	CAPACITOR	DATA PLL L.F.
	CB 23	NCT06CH-270AY	C CAPACITOR	DATA PLL L.F.
	CB 24	ECST1AB106R	TS.E.CAPACITOR	DATA PLL VREF
	CNB11	VMC0241-S24-T	CONNECTOR	
	CNB12	VMC0241-S24-T	CONNECTOR	
	CNB13	VMC0240-010-T	CONNECTOR	FOR RF FLEXIBLE
	COB01	JT4923-AS	DAT CONTROLER	
	COB02	JT4924-AS	DAT PROCESSOR	
	COB03	HC65256B	256K DRAM	
	LB 01	VQZ0070-001	COIL	
	RB 01	NRSA63J-472NY	MG RESISTOR	VXO
	RB 02	NRSA63J-473NY	MG RESISTOR	VXO
	RB 03	NRSA63J-102NY	MG RESISTOR	DATA PLL VREF
	RB 04	NRSA63J-102NY	MG RESISTOR	DATA PLL VREF
	RB 05	NRSA63J-473NY	MG RESISTOR	DATA PLL VREF
	RB 06	NRSA63J-473NY	MG RESISTOR	DATA PLL VREF
	RB 07	NRSA63J-473NY	MG RESISTOR	DATA PLL VREF
	RB 08	NRSA63J-511NY	MG RESISTOR	DATA PLL VREF
	RB 09	NRSA63J-511NY	MG RESISTOR	DATA PLL VREF
	RB 10	NRSA63J-511NY	MG RESISTOR	DATA PLL VREF
	RB 11	NRSA63J-473NY	MG RESISTOR	DATA PLL VREF
	RB 12	NRSA63J-472NY	MG RESISTOR	DATA PLL VREF
	RB 13	NRSA63J-152NY	MG RESISTOR	DATA PLL VREF
	VCB 1	1SV218	VARI CAP	
	VRB01	RH03AVAS4	V.RESISTOR	

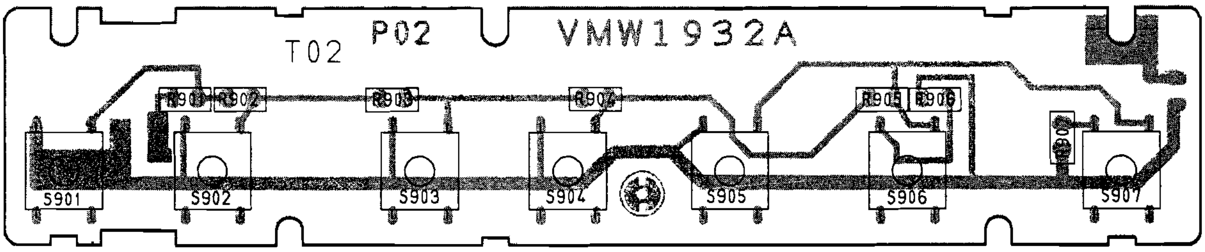
■ RF P.C. Board (Surface Side)


FLX1
ICA01
CA05
CA25
CA01
CA21
S01
CNA01
F01

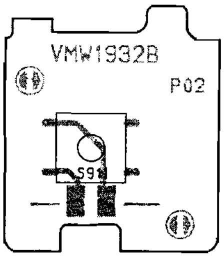
(Back Side)


ICA46
CA48
RA47
CA44
RA49
CA43
RA45
RA46
RA33
CA85
CA40
RA42
CA41
RA19
CA42
RA41
RA22
RA02
CA24
LA71
CA04
CA22
RA23
RA03
CA
RA01
CA03
P01

■ Operation Key P.C. Board


T02
P02
VMW1932A
R901
R902
R903
R904
R905
R906
R907
S901
S902
S903
S904
S905
S906
S907

■ Eject Key P.C. Board


VMW1932B
P02
S91

Operation /Eject Key P.C. board

BLOCK NO. 03

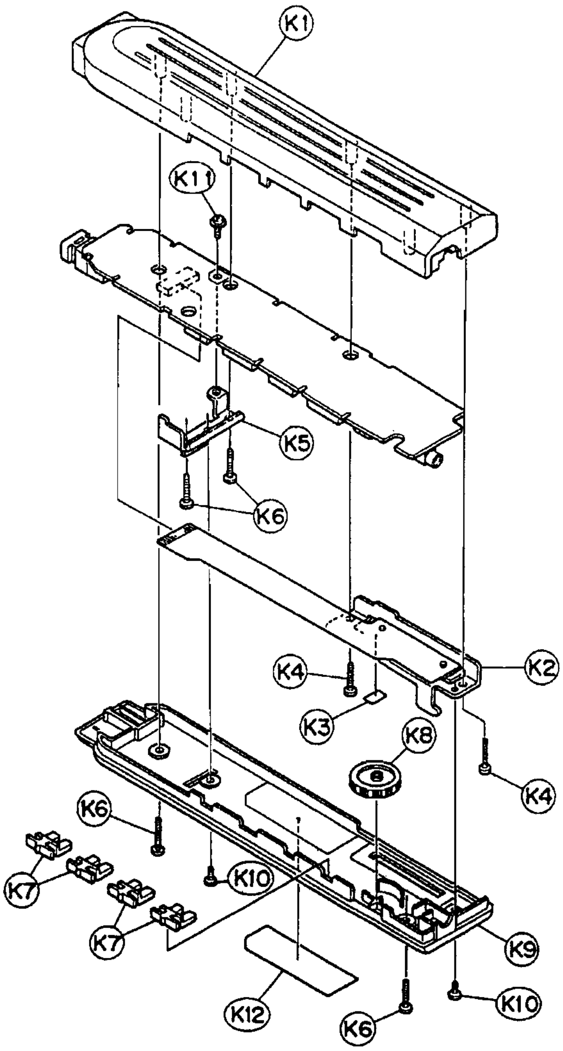
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	R 901	NRVA62D-752NY	MG RESISTOR	7.5K
	R 902	NRVA62D-362NY	MG RESISTOR	3.6K
	R 903	NRVA62D-392NY	MG RESISTOR	3.9K
	R 904	NRVA62D-472NY	MG RESISTOR	4.7K
	R 905	NRVA62D-622NY	MG RESISTOR	6.2K
	R 906	NRVA62D-473NY	MG RESISTOR	47K
	R 907	NRVA62D-753NY	MG RESISTOR	75K
	S 901	QSQ1A11-V02	TACT SW IM	VOL DOWN
	S 902	QSQ1A11-V02	TACT SW IM	VOL UP
	S 903	QSQ1A11-V02	TACT SW IM	REW
	S 904	QSQ1A11-V02	TACT SW IM	FF
	S 905	QSQ1A11-V02	TACT SW IM	STOP
	S 906	QSQ1A11-V02	TACT SW IM	PLAY/PAUSE
	S 907	QSQ1A11-V02	TACT SW IM	REC
	S 911	QSQ1A11-V02	TACT SW IM	

RF P.C. board

BLOCK NO. 04

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	CA 01	NCF21CZ-105AY	C CAPACITOR	1.0MF +80:-20%
	CA 02	NEF11VM-224LY	TS E CAPACITOR	.22MF 20% 35V
	CA 03	NCB21CK-104AY	C CAPACITOR	.10MF 10% 16V
	CA 04	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	CA 05	NCB31HK-102AY	C.CAPACITOR	1000PF 10% 50V
	CA 21	NCF21CZ-105AY	C CAPACITOR	1.0MF +80:-20%
	CA 22	NEF11VM-224LY	TS E CAPACITOR	.22MF 20% 35V
	CA 23	NCB21CK-104AY	C CAPACITOR	.10MF 10% 16V
	CA 24	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	CA 25	NCB31HK-102AY	C.CAPACITOR	1000PF 10% 50V
	CA 40	NCB31HK-331AY	C CAPACITOR	330PF 10% 50V
	CA 41	NCS31HJ-470AY	C CAPACITOR	47PF 5% 50V
	CA 42	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	CA 43	NCB21CK-104AY	C CAPACITOR	.10MF 10% 16V
	CA 44	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V
	CA 45	NCF21CZ-105AY	C CAPACITOR	1.0MF +80:-20%
	CA 46	NCS31HJ-271AY	C CAPACITOR	270PF 5% 50V
	CA 48	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	CA 84	NCF21CZ-105AY	C CAPACITOR	1.0MF +80:-20%
	CA 85	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	CA 88	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	CA 94	NCF21CZ-105AY	C CAPACITOR	1.0MF +80:-20%
	CNA01	VMC0240-004-T	CONNECTOR	TO DRUM
	ICA01	TA8174F	DAT-RF LSI	RF LSI
	LA 71	VQP1006-270	INDUCTOR	
	RA 01	NRSA63J-271NY	MG RESISTOR	270 5%
	RA 02	NRSA63J-684NY	MG RESISTOR	680K 5%
	RA 03	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	RA 13	NRSA63J-563NY	MG RESISTOR	56K 5%
	RA 21	NRSA63J-271NY	MG RESISTOR	270 5%
	RA 22	NRSA63J-684NY	MG RESISTOR	680K 5%
	RA 23	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	RA 33	NRSA63J-563NY	MG RESISTOR	56K 5%
	RA 41	NRSA63J-561NY	MG RESISTOR	560 5%
	RA 42	NRSA63J-392NY	MG RESISTOR	3.9K 5%
	RA 43	NRSA63J-273NY	MG RESISTOR	27K 5%
	RA 47	NRSA63J-303NY	MG RESISTOR	30K 5%
	RA 48	NRSA63J-273NY	MG RESISTOR	27K 5%
	RA 49	NRSA63J-364NY	MG RESISTOR	360K 5%
	RA 64	NRSA63J-122NY	MG RESISTOR	1.2K 5%

A/D Converter XD – AD1

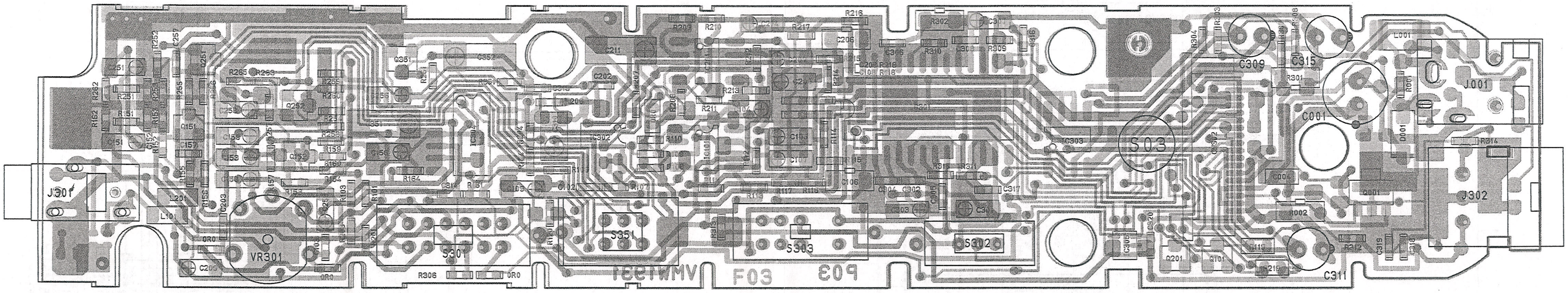


■ XD – AD1 Enclosure assembly parts list BLOCK NO. M3MM

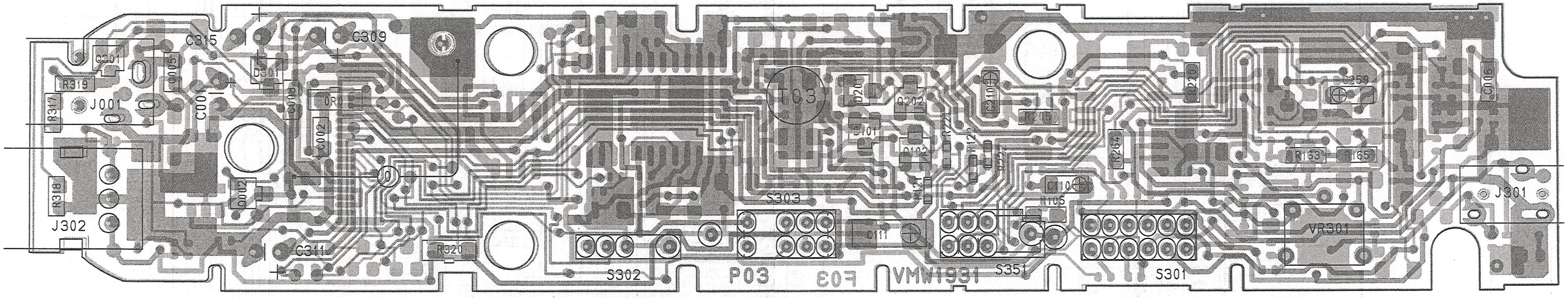
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	K 1	VJG1064-001	UPPER COVER		1
	K 2	VKL7143-002	JOINT BACKET U		1
	K 3	VYSA1R6-009	SPACER	FLXIBLE BOARD	1
	K 4	SDSF2008M	SCREW	JOINT BKT	2
	K 5	VKL7144-002	JOINT BACKET D		1
	K 6	SDSF2008M	SCREW	JOINT BKT	4
	K 7	VXS4384-001	SLIDE KNOB (S)		4
	K 8	VXQ4110-001	VOLUME KNOB		1
	K 9	VJG1065-001	LOWER CASE		1
	K 10	SPSH2040M	MINI SCREW		2
	K 11	VKZ4131-002	SPECIAL SCREW		1
	K 12	VYNA478-002	NAME PLATE		1
	K 13	VYSS2R2-004	SPACER		1
	K 14	VYSH1R9-005	SPACER		1
	K 15	VYSH1R9-006	SPACER		1

■ XD-P1PRO G/J A/D Convertor P.C. Board: Drawing No. VMW1931

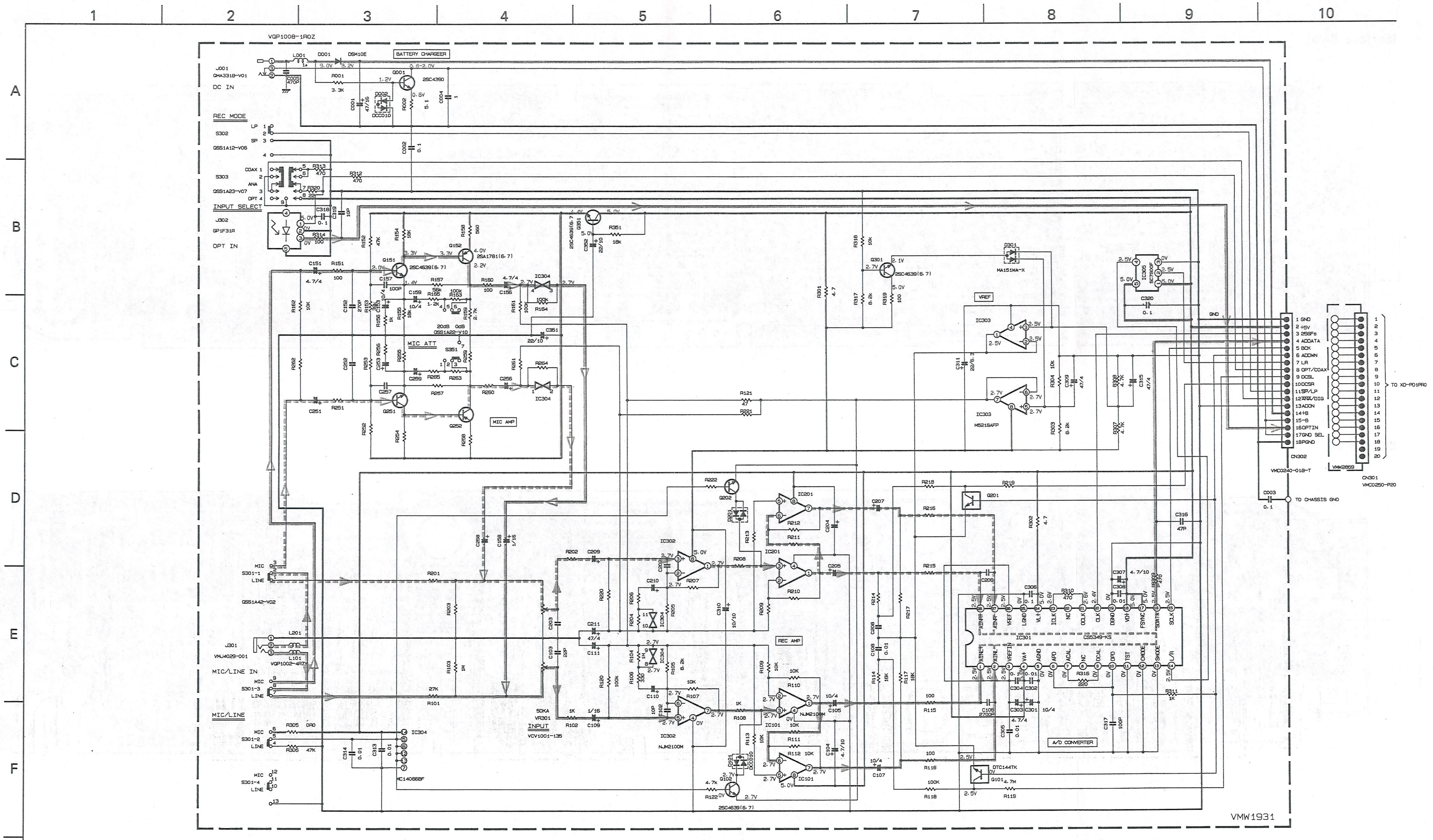
(Surface Side)


J301
VR301
S301
S351
S303
S302
S03
C309
C315
C001
J001
J302
C311
VMW1931
F03
P03
R306
Q351
Q201
Q101
L001
R302
R304
C317
R216
R217

(Back Side)


C315
C309
C301
R319
R317
J001
C001
R318
J302
C311
R320
S302
P03
F03
VMW1931
S303
S351
S301
VR301
J301
T03
C111
C110
C259
C006
R153
R165
Q202
Q102
D101

■ A/D Convertor Circuit: Drawing No. VDH2302-102AV


VQP1008-1R0Z
J001
QMA3318-V01
DC IN
BATTERY CHARGEER
REC MODE
S302
QSS1A12-V06
LP
SP
S303
QSS1A23-V07
COAX
ANA
OPT
INPUT SELECT
J302
GP1F31R
OPT IN
MIC ATT
S351
QSS1A22-V10
20dB
0dB
MIC AMP
S301-1
QSS1A42-V02
J301
VMJ4029-001
MIC/LINE IN
MIC/LINE
S301-2
S301-3
S301-4
MIC
LINE
IC304
MC14066BF
50KA
VR301
INPUT
VCV1001-135
IC302
NJM2100M
REC AMP
IC101
IC201
NJM2100M
IC301
CS5349-KS
A/D CONVERTER
VREF
IC303
M5218AFP
IC305
SK7800F
D301
MA151WA-X
Q001 2SC4390
Q151 2SC4639(6.7)
Q152 2SA1781(6.7)
Q251
Q252
Q351 2SC4639(6.7)
Q301 2SC4639(6.7)
Q102 2SC4639(6.7)
Q101 DTC144TK
Q201
Q202
D001 DSM10E
D002 DCC010
D101 DCC010
D201
CN302
VMC0240-018-T
CN301
VMC0250-P20
VMW2869
1 GND
2 +5V
3 256Fs
4 ADDATA
5 BCK
6 ADDWN
7 LR
8 OPT/COAX
9 DCSL
10 DCSR
11 SP/LP
12 ANA/DIG
13 ADON
14 +B
15 -B
16 OPTIN
17 GND SEL
18 PGND
TO XD-PD1PRO
TO CHASSIS GND
C003 0.1
VMW1931
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER IN
CONDITION: STANDARD REC PLAY · LINE IN

2. UNLESS OTHERWISE SPECIFIED
ALL RESISTORS WITHOUT * ARE 1/16W ±5% METAL GLAZE RESISTOR· OR 1/10W ±5% METAL GLAZE RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE 50V· 25V· 16V CERAMIC· OR T.S.E. CAPACITOR.
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE(V).
ALL INDUCTANCE VALUES ARE IN μ HENRY(μH)

Optical Signal

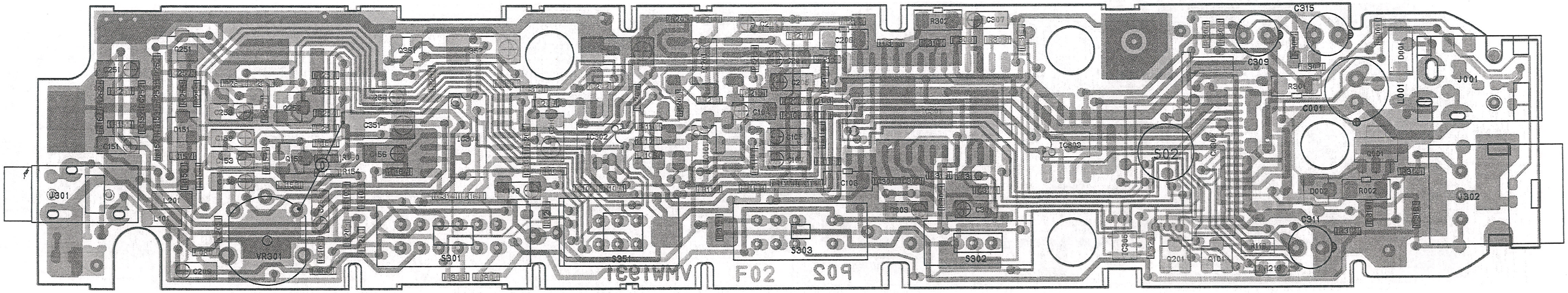
L
R] Recording Signal(Line)

L
R] Recording Signal (MIC)

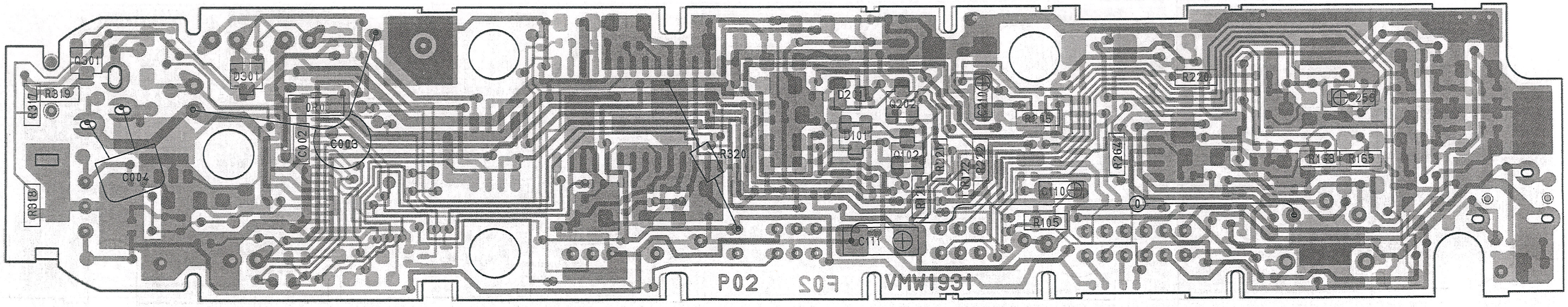
+B LINE

■ XD-P1E/B A/D Convertor: Drawing No. VMW1931-F02

(Surface Side)

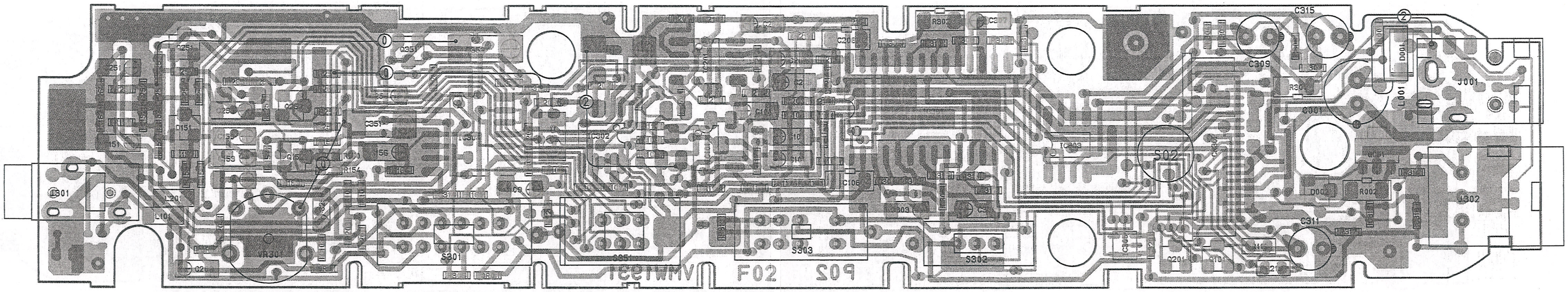

C315
R302
C307
C309
D001
J001
R304
L001
C001
S02
IC303
D002
R002
J302
C311
S302
S303
S301
S351
VR301
J301
L201
L101
D151
C151
Q251
C251
C351
Q351
IC302
IC304
C206
C106
Q201
Q101
VMW1931
F02
P02

(Back Side)

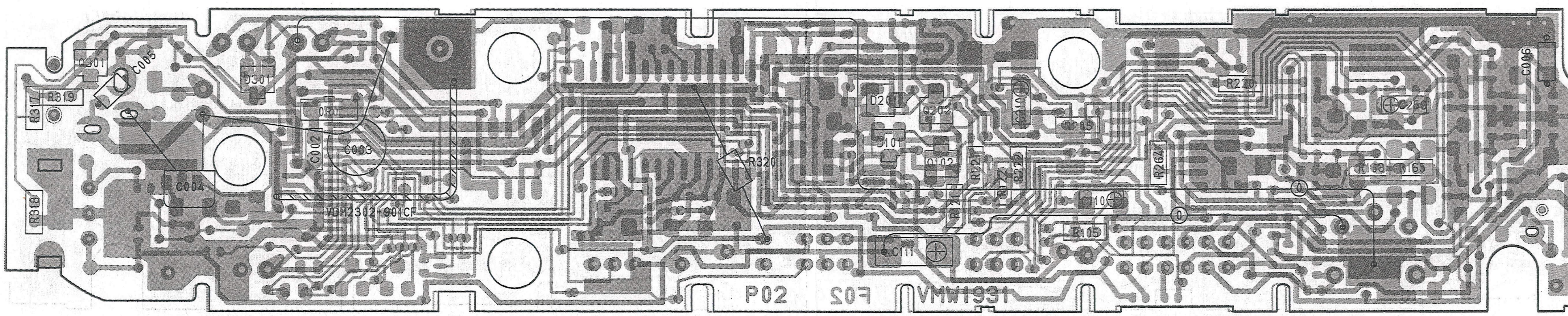

Q301
D301
R319
R317
R318
C004
C002
C003
R320
D201
Q202
D101
Q102
C310
R215
R220
C256
R158
R165
R264
C110
R105
C111
P02
F02
VMW1931

■ XD-P1C/J/G A/D Convertor P.C. Board: Drawing No. WMW1931-

(Surface Side)


C315
C309
C311
S301
S302
S303
S502
J001
J302
L001
C351
VR301
Q201
R002
D002
VMW1931
F02
P02

(Back Side)


C301
C005
R319
R317
R318
D301
C004
C003
C002
VDM2302-901CF
R320
D201
Q202
Q101
Q102
R105
C111
R264
R220
C259
R165
C006
P02
F02
VMW1931

■ A/D Convertor XD – AD1 P.C. board

BLOCK NO. 05

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	B 001	NRS181J-ORONY	MG RESISTOR	5% 1/8W
	C 001	QER41CM-476M	E CAPACITOR	47MF 20% 16V
	C 002	NCF21HZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 003	NCF21HZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 004	NCF21CZ-105AY	C CAPACITOR	1.0MF +80:-20%
	C 005	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V
	C 006	NCF21HZ-103AY	C CAPACITOR	.010MF +80:-20%
	C 102	NCS31HD-100AY	C CAPACITOR	10PF 50V
	C 103	NCS31HJ-220AY	C CAPACITOR	HASSINN TAISAKU
	C 104	TA1AS475M-R	E CAPACITOR	FOR OP-AMP
	C 105	TAOGS106M-R	E CAPACITOR	FOR CUPPLING
	C 106	NFV31CJ-272Y	F CAPACITOR	2700PF 5% 16V
	C 107	TAOGS106M-R	E CAPACITOR	
	C 108	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	C 109	NEF11CM-105LY	TS.E.CAPACITOR	1.0MF 20% 16V
	C 110	TAOGS106M-R	E CAPACITOR	
	C 111	TAOGS476M-R	E CAPACITOR	
	C 151	NEF10GM-475RY	TS E CAPACITOR	FOR CUPPLING
	C 152	NCS31HJ-271AY	C CAPACITOR	270PF 5% 50V
	C 153	TAOGS106M-R	E CAPACITOR	
	C 156	NEF10GM-475RY	TS E CAPACITOR	4.7MF 20%
	C 157	NCS31HJ-101AY	C.CAPACITOR	100PF 5% 50V
	C 158	NEF11CM-105LY	TS.E.CAPACITOR	1.0MF 20% 16V
	C 159	TAOGS106M-R	E CAPACITOR	
	C 202	NCS31HD-100AY	C CAPACITOR	10PF 50V
	C 203	NCS31HJ-220AY	C CAPACITOR	HASSINN TAISAKU
	C 204	TA1AS475M-R	E CAPACITOR	FOR OP-AMP
	C 205	TAOGS106M-R	E CAPACITOR	FOR CUPPLING
	C 206	NFV31CJ-272Y	F CAPACITOR	2700PF 5% 16V
	C 207	TAOGS106M-R	E CAPACITOR	
	C 208	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	C 209	NEF11CM-105LY	TS.E.CAPACITOR	1.0MF 20% 16V
	C 210	TAOGS106M-R	E CAPACITOR	
	C 211	TAOGS476M-R	E CAPACITOR	
	C 251	NEF10GM-475RY	TS E CAPACITOR	FOR CUPPLING
	C 252	NCS31HJ-271AY	C CAPACITOR	270PF 5% 50V
	C 253	TAOGS106M-R	E CAPACITOR	
	C 256	NEF10GM-475RY	TS E CAPACITOR	4.7MF 20%
	C 257	NCS31HJ-101AY	C.CAPACITOR	100PF 5% 50V
	C 258	NEF11CM-105LY	TS.E.CAPACITOR	1.0MF 20% 16V
	C 259	TAOGS106M-R	E CAPACITOR	
	C 301	TAOGS106M-R	E CAPACITOR	FOR ADC A.+5V
	C 302	NCB31HK-103AY	C CAPACITOR	FOR ADC A.+5V
	C 303	NEF10GM-475RY	TS E CAPACITOR	FOR ADC VREF
	C 304	NCF31CZ-104AY	C CAPACITOR	A.+5V <-> VREF
	C 305	NCB31HK-103AY	C CAPACITOR	VREF <-> GND
	C 306	NCF31CZ-104AY	C CAPACITOR	FOR L.A+5V
	C 307	TA1AS475M-R	E CAPACITOR	FOR ADC D.+5V
	C 308	NCB31HK-103AY	C CAPACITOR	FOR ADC D.+5V
	C 309	QERFOGM-476ZM	E CAPACITOR	FOR EXT VREF
	C 310	ECST1AX106R	E CAPACITOR	FOR OP-AMP
	C 311	QER40JM-226	E CAPACITOR	FOR OP-AMP
	C 313	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	C 314	NCB31HK-103AY	C CAPACITOR	.010MF 10% 50V
	C 315	QERFOGM-476ZM	E CAPACITOR	47MF 20%
	C 316	NCS31HJ-470AY	C CAPACITOR	47PF 5% 50V
	C 317	NCS31HJ-101AY	C.CAPACITOR	100PF 5% 50V
	C 318	NCF31CZ-104AY	C CAPACITOR	.10MF +80:-20%
	C 319	NCS31HD-100AY	C CAPACITOR	10PF 50V
	C 320	NCF31CZ-104AY	C CAPACITOR	FOR IC305
	C 351	TA1AS226M-R	E CAPACITOR	FOR +5V
	C 352	TA1AS226M-R	E CAPACITOR	FOR +5V
	CN302	VMC0240-018-T	CONNECTOR	FLEX PWB
⚠	D 001	DSM10E	SI DIODE	
	D 002	DCC010	SI DIODE	FOR C.C.
	D 101	DCC010	SI DIODE	LIMITTER
	D 201	DCC010	SI DIODE	LIMITTER
	D 301	MA151WA	SI DIODE	
	IC101	NJM2100M	IC	REC AMP
	IC201	NJM2100M	IC	REC AMP
	IC301	CS5349-KS	IC	ADC
	IC302	NJM2100M	IC	REC AMP
	IC303	M5218AFP	IC	VREF
	IC304	MC14066BF	I C	INPUT SELECT
	IC305	SC7S00F-W	IC	FOR LR CLOCK
	J 001	QMA331B-V01	DC JACK	DC JACK
	J 301	VMJ4029-101	JACK	LINE IN & MIC
	J 302	GP1F31R	OPTICAL RX JACK	OPTICAL INPUT
	L 001	VQP1008-1R0	INDUCTOR	
	L 101	VQP1002-4R7Y	INDUCTOR	
	L 201	VQP1002-4R7Y	INDUCTOR	
	Q 001	2SC4390	TRANSISTOR	FOR C.C.
	Q 101	DTC144TK	TRANSISTOR	
	Q 102	2SC4639(6,7)	TRANSISTOR	FOR LIMITTER
	Q 151	2SC4639(6,7)	RANSISTOR	MIC AMP
	Q 152	2SA1781(6,7)	TRANSISTOR	MIC AMP
	Q 201	DTC144TK	TRANSISTOR	
	Q 202	2SC4639(6,7)	TRANSISTOR	FOR LIMITTER
	Q 251	2SC4639(6,7)	TRANSISTOR	MIC AMP
	Q 252	2SA1781(6,7)	TRANSISTOR	MIC AMP
	Q 301	2SC4639(6,7)	TRANSISTOR	
	Q 351	2SC4639(6,7)	TRANSISTOR	FOR +5V
	R 001	NRSA63J-332NY	MG RESISTOR	3.3K 5%
	R 002	NRS181J-5R1NY	MG RESISTOR	5.1 5% 1/8W
	R 005	NRSA02J-ORONY	MG RESISTOR	5% 1/10W
	R 101	NRSA63J-273NY	MG RESISTOR	27K 5%
	R 102	NRSA63J-ORONY	MG RESISTOR	5%
	R 103	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 104	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 105	NRSA02J-822NY	MG REAIATOR	8.2K 5% 1/10W
	R 106	NRSA63J-331NY	MG RESISTOR	330 5%
	R 107	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 108	NRSA63J-102NY	MG RESISTOR	1.0K 5%
	R 109	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 110	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 111	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 112	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 113	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 114	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 115	NRSA63J-101NY	MG RESISTOR	100 5%
	R 116	NRSA63J-101NY	MG RESISTOR	100 5%
	R 117	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 118	NRSA63J-104NY	MG RESISTOR	FOR DC CAL
	R 119	NRSA02J-475NY	MG RESISTOR	FOR DC SERVO
	R 120	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 121	NRSA63J-470NY	MG RESISTOR	47 5%
	R 122	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	R 151	NRSA63J-101NY	MG RESISTOR	100 5%
	R 152	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 153	NRSA63J-393NY	MG RESISTOR	39K 5%
	R 154	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 155	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 156	NRSA63J-102NY	MG RESISTOR	1.0K 5%
	R 157	NRSA63J-563NY	MG RESISTOR	56K 5%
	R 158	NRSA63J-561NY	MG RESISTOR	560 5%
	R 159	NRSA63J-272NY	MG RESISTOR	2.7K 5%
	R 160	NRSA63J-101NY	MG RESISTOR	100 5%
	R 161	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 162	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 163	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W
	R 164	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 165	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W
	R 201	NRSA63J-273NY	MG RESISTOR	27K 5%
	R 202	NRSA63J-ORONY	MG RESISTOR	5%
	R 203	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 204	NRSA63J-105NY	MG RESISTOR	1.0M 5%
	R 205	NRSA02J-822NY	MG REAIATOR	8.2K 5% 1/10W
	R 206	NRSA63J-331NY	MG RESISTOR	330 5%
	R 207	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 208	NRSA63J-102NY	MG RESISTOR	1.0K 5%
	R 209	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 210	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 211	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 212	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 213	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 214	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 215	NRSA63J-101NY	MG RESISTOR	100 5%
	R 216	NRSA63J-101NY	MG RESISTOR	100 5%
	R 217	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 218	NRSA63J-104NY	MG RESISTOR	FOR DC CAL
	R 219	NRSA02J-475NY	MG RESISTOR	FOR DC SERVO
	R 220	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W
	R 221	NRSA63J-470NY	MG RESISTOR	47 5%
	R 222	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	R 251	NRSA63J-101NY	MG RESISTOR	100 5%
	R 252	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 253	NRSA63J-393NY	MG RESISTOR	39K 5%
	R 254	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 255	NRSA63J-183NY	MG RESISTOR	18K 5%
	R 256	NRSA63J-102NY	MG RESISTOR	1.0K 5%
	R 257	NRSA63J-563NY	MG RESISTOR	56K 5%
	R 258	NRSA63J-561NY	MG RESISTOR	560 5%
	R 259	NRSA63J-272NY	MG RESISTOR	2.7K 5%
	R 260	NRSA63J-101NY	MG RESISTOR	100 5%
	R 261	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 262	NRSA63J-103NY	MG RESISTOR	10K 5%
	R 263	NRSA63J-104NY	MG RESISTOR	100K 5%
	R 264	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W
	R 265	NRSA63J-122NY	MG RESISTOR	1.2K 5%
⚠	R 301	NRS181J-4R7NY	MG RESISTOR	FOR +5V
⚠	R 302	NRS181J-4R7NY	MG RESISTOR	FOR DC CAL
	R 303	NRSA63J-822NY	MG RESISTOR	FOR VREF
	R 304	NRSA63J-103NY	MG RESISTOR	FOR VREF
	R 305	NRSA63J-ORONY	MG RESISTOR	5%
	R 306	NRSA63J-473NY	MG RESISTOR	47K 5%
	R 307	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	R 308	NRSA63J-472NY	MG RESISTOR	4.7K 5%
	R 309	NRSA63J-471NY	MG RESISTOR	470 5%
	R 310	NRSA63J-471NY	MG RESISTOR	470 5%
	R 311	NRSA63J-102NY	MG RESISTOR	1.0K 5%
	R 312	NRSA63J-471NY	MG RESISTOR	470 5%
	R 313	NRSA63J-471NY	MG RESISTOR	470 5%
	R 314	NRSA63J-101NY	MG RESISTOR	100 5%
	R 316	NRSA63J-221NY	MG RESISTOR	DCAL<->ACAL
	R 317	NRSA02J-822NY	MG REAIATOR	8.2K 5% 1/10W
	R 318	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W
	R 319	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W
	R 320	NRS181J-220NY	MG RESISTOR	22 5% 1/8W
	R 351	NRSA63J-183NY	MG RESISTOR	FOR +5V
	S 301	QSS1A42-V02	SLIDE SW	MIC/LINE
	S 302	QSS1A12-V06	SLIDE SW	REC MODE
	S 303	QSS1A23-V07	SLIDE SW	OPT/ANA/COAX
	S 351	QSS1A22-V10	SLIDE SW	MIC ATT
	VR301	VCV1001-135	V RESISTOR	INPUT VR

Rechargeable Battery AA – R909

■ Specification

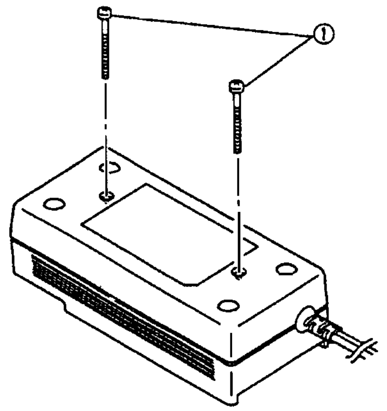
Power requirement ··························· AC110~240V(50/60Hz)
Power consumption··· 22 watts
Output··· DC 8.5V/1.3A(Charge)
DC 6V/1.8A(VTR)
Charging system ·· Constant current,peak detection, timer controlled

Dimensions ································ 145(W) × 42(H) × 69(D)mm
Weight ·· Approx 380g

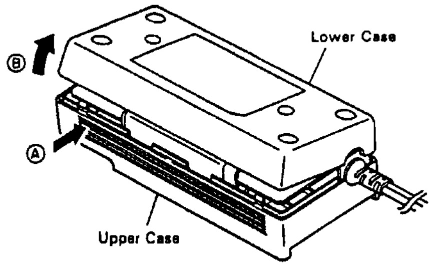
Design and specifications subject to change without notice.

■ Disassembly

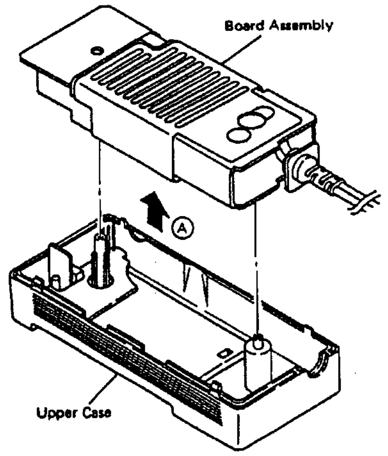
1. Take out 2 screws ①.



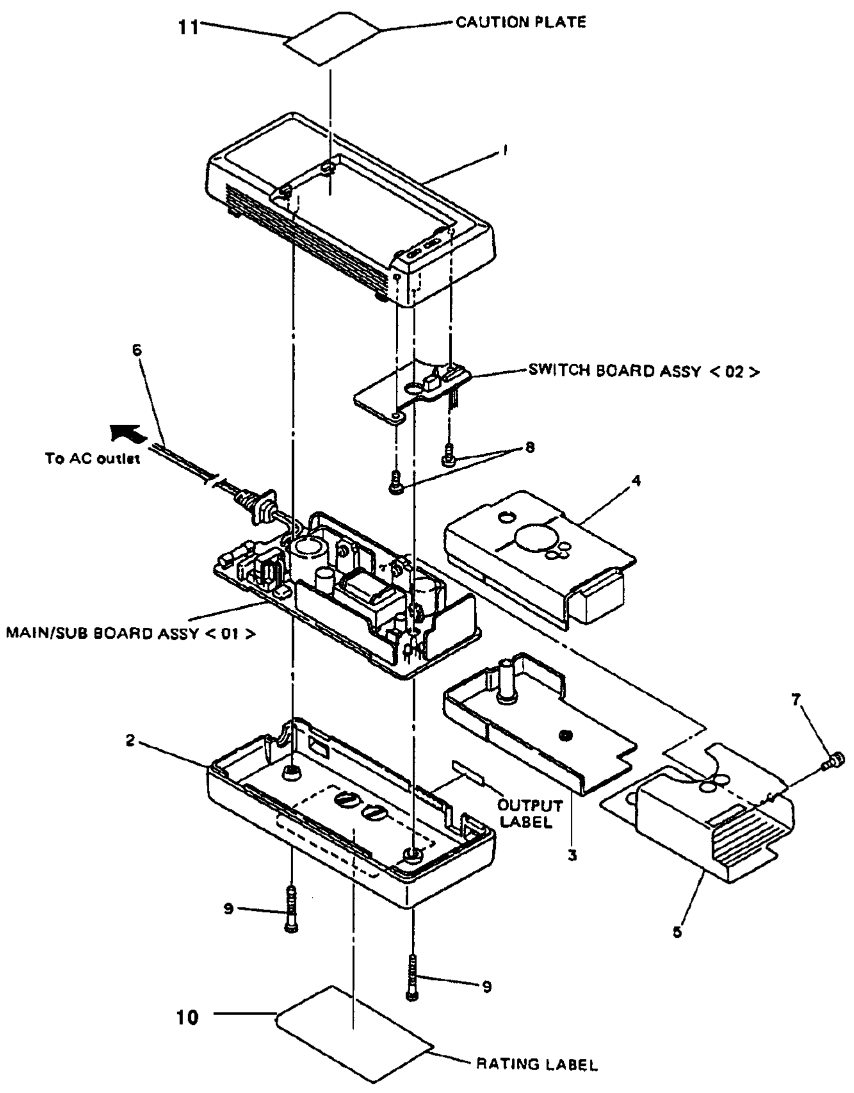
2. Press at point Ⓐ and raise the lower case in the direction indicated by arrow Ⓑ. The upper and lower cases can then be separated.


Ⓑ
Lower Case
Ⓐ
Upper Case

3. Raise the circuit board assembly (main and sub boards) as indicated be arrow Ⓐ and remove the assembly from the lower case.


Board Assembly
Ⓐ
Upper Case

■ Exploded view of AA – R909 enclosure assembly

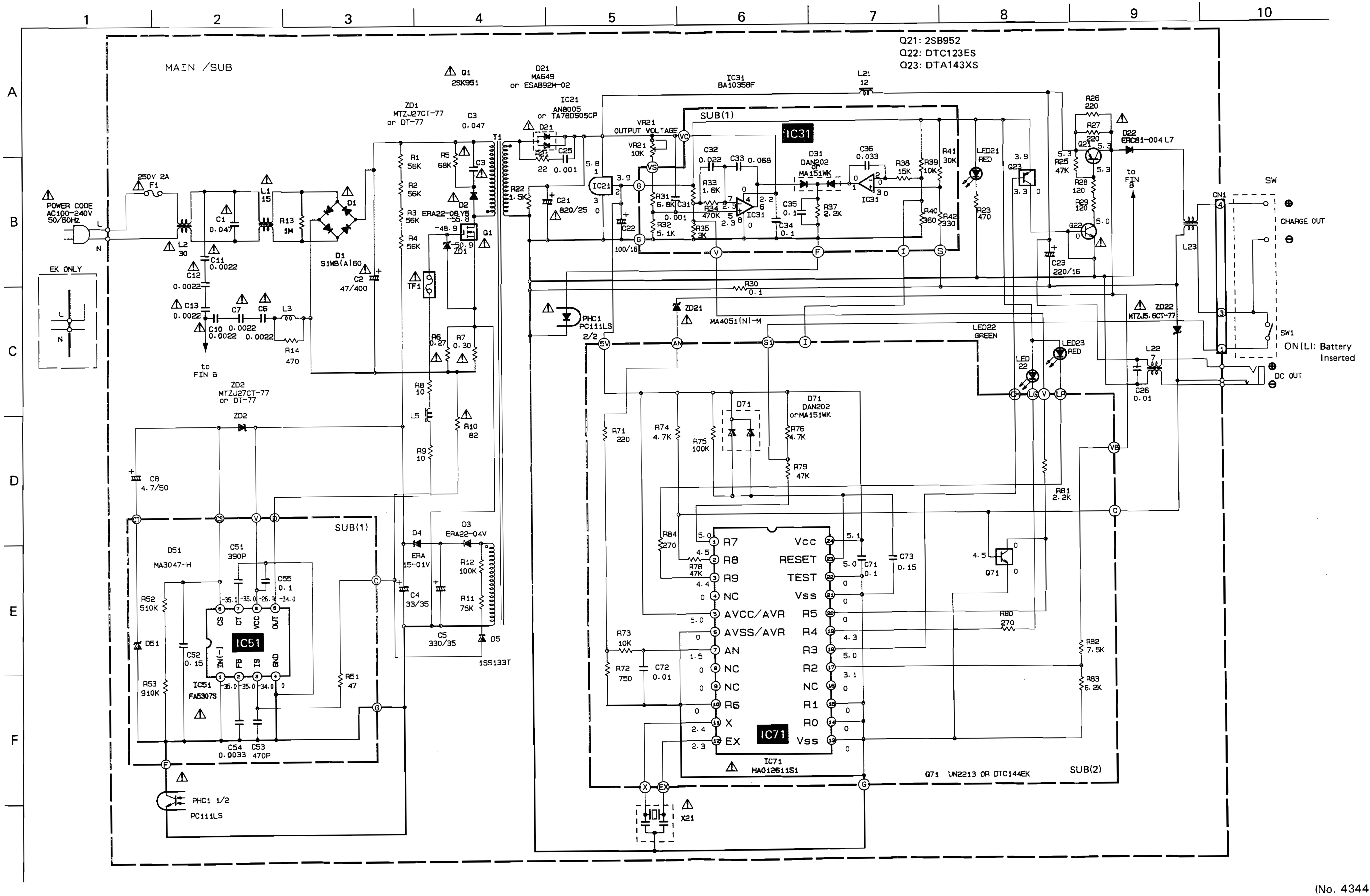

11
CAUTION PLATE
1
6
SWITCH BOARD ASSY < 02 >
To AC outlet
8
4
MAIN/SUB BOARD ASSY < 01 >
7
2
OUTPUT LABEL
3
5
9
9
10
RATING LABEL

■ AA – R909 Enclosure assembly parts list

BLOCK NO. M4MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	HP31289AB	UPPER CASE		1
⚠	2	HP31289B	LOWER CASE		1
⚠	3	YQ10233-002	SHIELD PLATE	LOWER	1
⚠	4	YQ10233-003	SHIELD PLATE	UPPER	1
⚠	5	YQ10233-004	INSULATOR		1
⚠	6	YQ10233-010	POWER CORD		1
	7	VIDEO PARTS	SCREW	M3X4	1
	8	SPSF2606Z	WOOD SCREW	M2.6X6	2
	9	YQ10233-006	SCREW	A2.6X16	2
	10	HK01289C1	RATING LABEL		1
	11	HK21289B	CAUTION LABEL		1

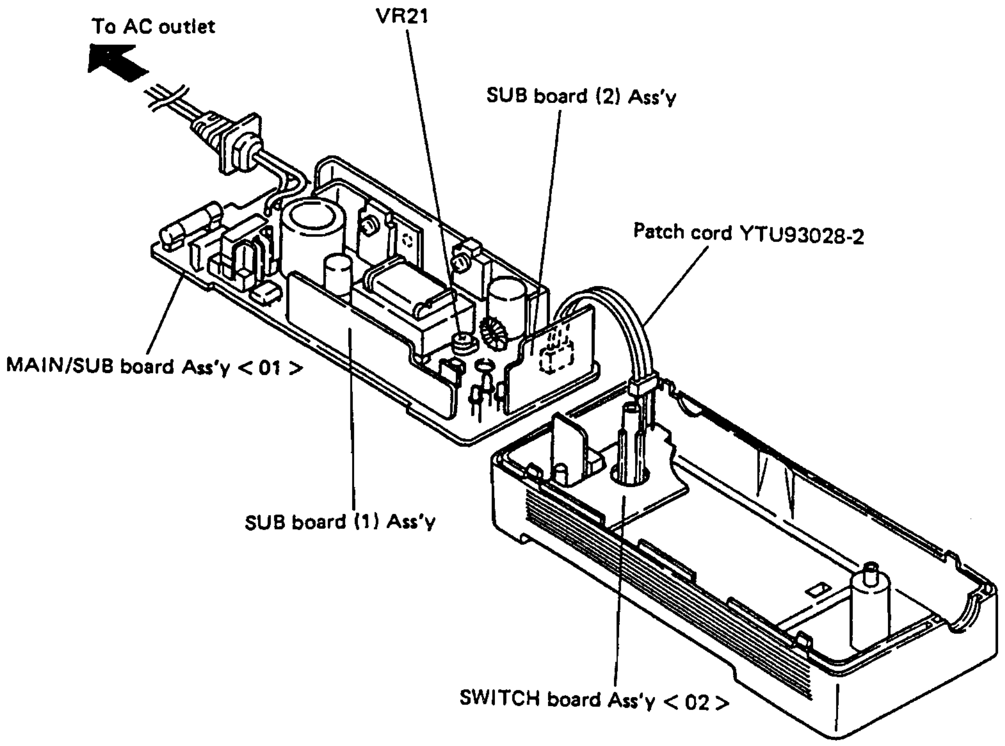
■ Rechargeable Battery Circuit


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
MAIN /SUB
Q21: 2SB952
Q22: DTC123ES
Q23: DTA143XS
Q1 2SK951
D21 MA649 or ESAB92M-02
IC21 AN8005 or TA78DS05CP
IC31 BA10358F
L21 12
ZD1 MTZJ27CT-77 or DT-77
C3 0.047
VR21 OUTPUT VOLTAGE
VR21 10K
SUB(1)
IC31
C32 0.022
C33 0.068
D31 DAN202 or MA151WK
C36 0.033
R38 15K
R39 10K
R41 30K
LED21 RED
R26 220
R27 220
D22 ERC81-004 L7
R25 47K
R28 120
R29 120
Q23
Q22
to FIN B
SW
CN1
CHARGE OUT
POWER CODE AC100-240V 50/60Hz
250V 2A F1
L1 15
C1 0.047
R13 1M
D1
L2 30
C11 0.0022
C12 0.0022
C13 0.0022
C7 0.0022
C6
L3
C10 0.0022
R14 470
to FIN B
D1 S1WB(A)60
C2 47/400
R1 56K
R2 56K
R3 56K
R4 56K
R5 68K
ERA22-08Y5
D2
ZD1
Q1
TF1
T1
R22 1.5K
C21 820/25
IC21
C22 100/16
R21 22
C25 0.001
R31 6.8K
R32 5.1K
C31 0.001
R33 1.6K
R34 470K
R35 3K
IC31
C35 0.1
C34 0.1
R37 2.2K
R40 360
R42 330
R23 470
C23 220/16
L23
R30 0.1
PHC1 PC111LS 2/2
ZD21 MA4051(N)-M
LED22 GREEN
LED23 RED
LED 22
ZD22 MTZJ5.6CT-77
L22 7
C26 0.01
SW1 ON(L): Battery Inserted
DC OUT
EK ONLY
L
N
R6 0.27
R7 0.30
ZD2 MTZJ27CT-77 or DT-77
ZD2
R8 10
L5
R9 10
R10 82
C8 4.7/50
SUB(1)
D51 MA3047-H
C51 390P
C55 0.1
R52 510K
D51
C52 0.15
R53 910K
IC51 FA5307S
IC51
CS CT VCC OUT
IN(-) FB IS GND
R51 47
C54 0.0033
C53 470P
PHC1 1/2 PC111LS
D4 ERA 15-01V
D3 ERA22-04V
R12 100K
R11 75K
C4 33/35
C5 330/35
D5 1SS133T
R71 220
R74 4.7K
R75 100K
D71
D71 DAN202 or MA151WK
R76 4.7K
R79 47K
R81 2.2K
R84 270
R78 47K
R73 10K
R72 750
C72 0.01
C71 0.1
C73 0.15
Q71
R80 270
R82 7.5K
R83 6.2K
IC71
R7 R8 R9 NC AVCC/AVR AVSS/AVR AN NC NC R6 X EX
Vcc RESET TEST Vss R5 R4 R3 R2 NC R1 R0 Vss
IC71 HA012611S1
Q71 UN2213 OR DTC144EK
SUB(2)
X21

■ IC 71 Rechargeable Battery

Pin No.	Name	Function	I /O
1	R7	L with battery inserted and SW1 ON.	IN
2	R8	H when DC jack connected.	IN
3	R9	L at fast change,LED 23(red) lights. H at trickle charge, LED 23(red) extinguished.	OUT
4	NC	–	–
5	AV+	5V	IN
6	AV –	GND	IN
7	AN	Battery voltage detector analog in put.	IN
8	NC		–
9	NC		–
10	R6	No used. Connected to ground.	–
11	X	4 MHz	OUT
12	EX	X′ TAL OSC	IN
13	Vss	GND	IN
14	–	–	–
15	R1	L at adapter mode.	IN
16	NC	–	–
17	R2	Signal input for switching to fast charge. Shift to fast charge at H.	IN
18	–	–	–
19	R4	L output at trickle charge, LED 22(green) lights. L mainteined also after 24 hour limit.	IN
20	–	–	–
21	Vss	GND	IN
22	TEST	GND	IN
23	RESET	Initialize at L level.	IN
24	Vcc	5V	IN

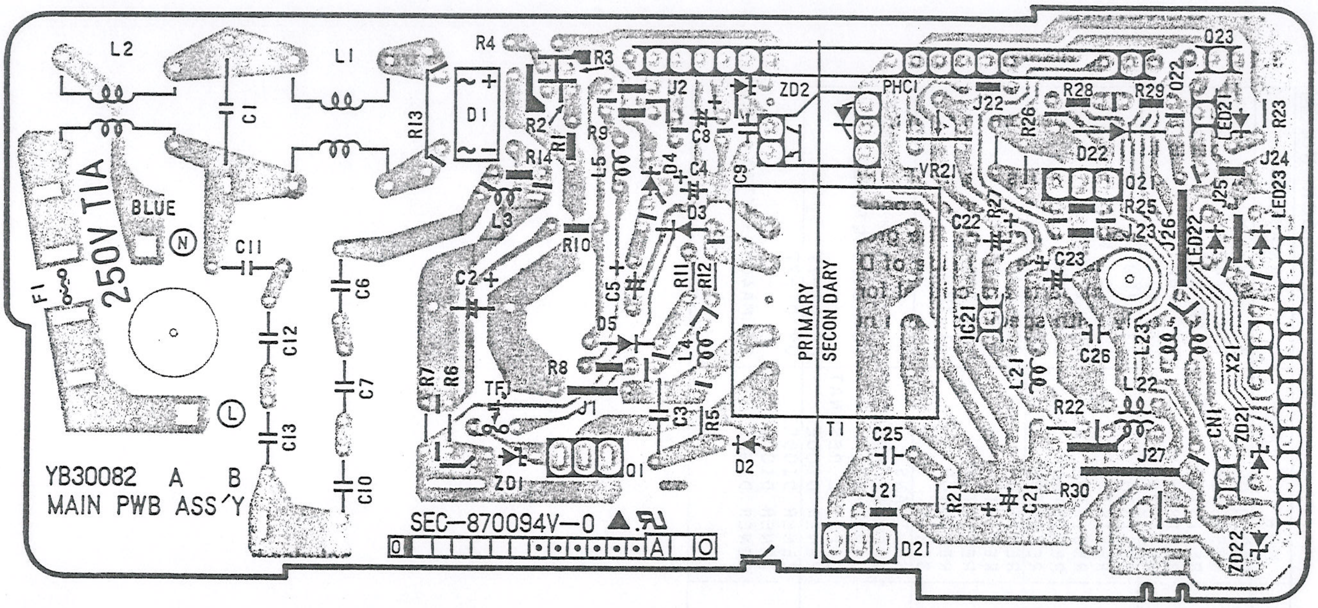
■ Standard set up for electrical adjustment


To AC outlet
VR21
SUB board (2) Ass'y
Patch cord YTU93028-2
MAIN/SUB board Ass'y < 01 >
SUB board (1) Ass'y
SWITCH board Ass'y < 02 >

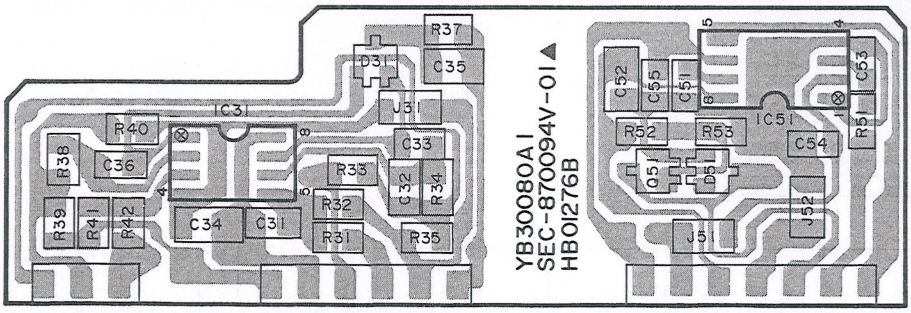
■ Main / Sub & Switch circuit P.C. Board

Item	Condition	Procedure	Adjust
Output Voltage	Test point :Main/Sub board (+, – terminal) $\boxed{0}\boxed{1}$ MAIN/ SUB	① Connect the DC voltmeter to +, – terminal of soldering side on the main board. ② Adjust the VR21 to obtain 7.0 ± 0.5V.	VR21 Output voltage

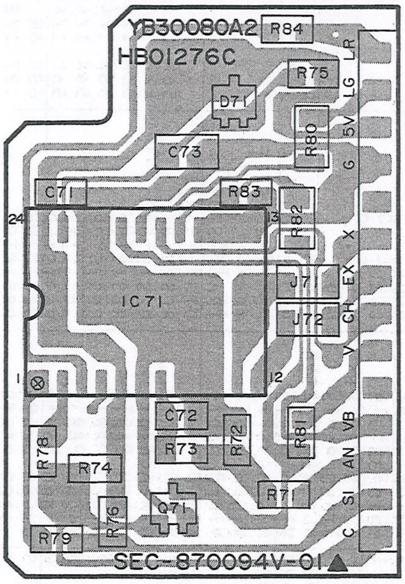
Main Circuit P.C.Board


L2
L1
C1
R13
D1
R4
R3
J2
ZD2
PHC1
Q23
R28
R29
Q22
LED21
R23
J22
R26
D22
Q21
R25
J24
J25
LED23
250V T1A
BLUE
N
C11
F1
C12
C6
C7
C13
C10
L
R2
R9
R14
L5
C8
D4
C4
C9
VR21
R27
C22
J23
J26
LED22
L3
R10
D3
C2
C5
R11
R12
C23
PRIMARY
SECON DARY
IC21
C26
L23
X21
D5
L4
R7
R6
TF1
R8
J1
C3
R5
L21
R22
L22
CN1
ZD21
T1
C25
J27
ZD1
Q1
D2
J21
R21
C21
R30
D21
ZD22
YB30082 A B
MAIN PWB ASS'Y
SEC-870094V-0
A
O

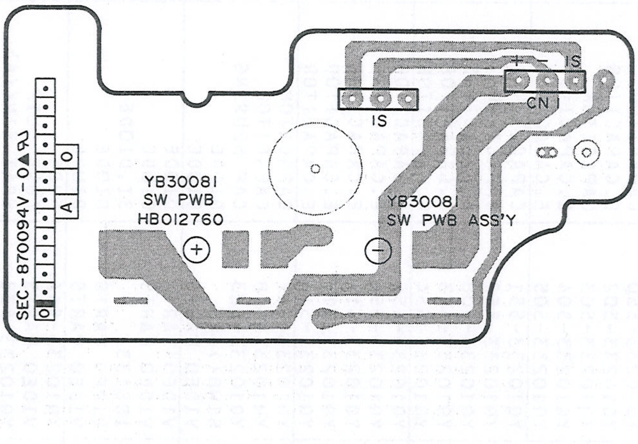
Sub (1) Circuit P.C.Board


R37
D31
C35
J31
IC31
R40
R38
C36
C33
R33
C32
R34
R39
R41
R42
C34
C31
R32
R31
R35
YB30080A1
SEC-870094V-01
HB01276B
C52
C55
C51
C53
R52
R53
IC51
C54
R51
Q51
D51
J52
J51

Sub (2) Circuit P.C.Board


YB30080A2
R84
HB01276C
R75
D71
R80
C73
C71
R83
R82
IC71
J71
J72
C72
R73
R72
R81
R78
R74
R71
Q71
R76
R79
LR
LG
5V
G
X
EX
CH
V
VB
AN
SI
C
SEC-870094V-01

Switch Circuit P.C.Board


IS
CN1
IS
SEC-870094V-0
A
O
YB30081
SW PWB
HB012760
YB30081
SW PWB ASS'Y

■ AC adapter/Recharger battery P.C.board

BLOCK NO. 06

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
⚠	C 1	YQ10233-550	CAPACITOR	.047MF 250V
⚠	C 2	YQ10233-502	E.CAPACITOR	47MF 400V
	C 3	YQ10233-503	CAPACITOR	.047MF
	C 4	YQ10233-504	E.CAPACITOR	33MF 35V
	C 5	YQ10233-505	E.CAPACITOR	330MF 35V
⚠	C 6	YQ10233-551	CAPACITOR	.0022MF
⚠	C 7	YQ10233-552	CAPACITOR	.002MF
	C 8	YQ10233-508	E.CAPACITOR	4.7MF 50V
	C 10	YQ10233-553	E.CAPACITOR	.0022MF
	C 11	YQ10233-554	E.CAPACITOR	.0022MF
	C 12	YQ10233-555	E.CAPACITOR	.0022MF
	C 13	YQ10233-556	E.CAPACITOR	.0022MF
⚠	C 21	YQ10233-514	E.CAPACITOR	820MF 25V
	C 22	YQ10233-515	E.CAPACITOR	100MF 16V
	C 23	YQ10233-516	E.CAPACITOR	220MF 16V
	C 25	YQ10233-517	CAPACITOR	.001MF
	C 25	YQ10233-518	CAPACITOR	.001MF
	CN 1	YQ10233-523	CAP HOUSING	
⚠	D 1	S1WB()60	DIODE	
⚠	D 2	VIDEO PARTS	DIODE	
	D 3	VIDEO PARTS	DIODE	
	D 4	VIDEO PARTS	DIODE	
	D 5	1SS133	SI.DIODE	
⚠	D 21	VIDEO PARTS	DIODE	OR ESAB92M-02
⚠	D 22	VIDEO PARTS	DIODE	
⚠	F 1	YQ10233-544	FUSE	
⚠	HD 1	VIDEO PARTS	FUSE CLIP	X2
	HS 1	YQ10233-538	HEAT SINK(A)	
	HS 2	YQ10233-539	HEAT SINK(B)	
	IC 21	AN8005	I.C(MONO-ANA)	OR TA78DS05CP
	J 1	YQ10233-540	DC JACK	
⚠	L 1	YQ10233-509	COIL	
⚠	L 2	YQ10233-510	COIL	
	L 3	YQ10233-546	COIL	
	L 5	YQ10233-547	COIL	
	L 21	YQ10233-519	CHOKE COIL	
	L 22	YQ10233-520	CHOKE COIL	
	L 23	YQ10233-548	COIL	
	LED21	SLR-34VR70F130	L.E.D.	RED
	LED22	VIDEO PARTS	LED	GREEN
	LED23	SLR-34VR70F130	L.E.D.	RED
⚠	PHC 1	VIDEO PARTS	PHOTO COUPLER	
⚠	Q 1	VIDEO PARTS	FE TRANSISTOR	
	Q 21	VIDEO PARTS	TRANSISTOR	
⚠	Q 22	VIDEO PARTS	TRANSISTOR	
	Q 23	DTA143XS	DIGI.TRANSISTOR	
	R 1	VIDEO PARTS	RESISTOR	56K 1/4W
	R 2	VIDEO PARTS	RESISTOR	56K 1/4W
	R 3	VIDEO PARTS	RESISTOR	56K 1/4W
	R 4	VIDEO PARTS	RESISTOR	56K 1/4W
	R 5	QRG026J-683A	RESISTOR	68K 6W
⚠	R 6	VIDEO PARTS	RESISTOR	.27 1/2W
⚠	R 7	VIDEO PARTS	RESISTOR	.3 1/2W
	R 8	QRD14AJ-100Y	CARBON RESISTOR	10 1/4W
	R 9	QRD14AJ-100Y	CARBON RESISTOR	10 1/4W
⚠	R 10	VIDEO PARTS	RESISTOR	82 1/4W
	R 11	VIDEO PARTS	RESISTOR	75K 1/4W
	R 12	VIDEO PARTS	RESISTOR	100K 1/4W
	R 13	VIDEO PARTS	RESISTOR	1M 1/8W
	R 14	VIDEO PARTS	RESISTOR	470 1/4W
	R 21	VIDEO PARTS	RESISTOR	22 1/2W
	R 22	VIDEO PARTS	RESISTOR	1.5K 1/4W
	R 23	VIDEO PARTS	RESISTOR	470 1/4W
	R 25	VIDEO PARTS	RESISTOR	47K 1/4W
	R 26	VIDEO PARTS	RESISTOR	220 1W
	R 27	VIDEO PARTS	RESISTOR	220 1W
	R 28	VIDEO PARTS	RESISTOR	120 1/4W
	R 29	VIDEO PARTS	RESISTOR	120 1/4W
	R 30	YQ10233-513	RESISTOR	.1 1W
	SCW 1	DPSP3008Z	SCREW	
⚠	T 1	YQ10233-511	SW TRANS	
	TF 1	YQ10233-545	THERMAL FUSE	
	VR 21	YQ10233-522	V.RESISTOR	OUTPUT/VOLTAGE
⚠	X 21	YQ10233-537	CRYSTAL RESONAT	
	ZD 1	MTZJ27C	ZENER DIODE	OR DT-77
	ZD 2	MTZJ27C	ZENER DIODE	OR DT-77
⚠	ZD 21	MA4051(N)	ZENER DIODE	
⚠	ZD 22	MTZJ5.6C	ZENER DIODE	OR MA4056-M(TA)

■ Sub (1) P.C. Board

BLOCK NO. 07

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	C 31	VIDEO PARTS	CAPACITOR	.001MF
	C 32	YQ10233-557	CAPACITOR	.0022MF
	C 33	YQ10233-558	CAPACITOR	.068MF
	C 34	YQ1C233-533	CAPACITOR	.1MF
	C 35	YQ10233-534	CAPACITOR	.1MF
	C 36	YQ10233-535	CAPACITOR	.033MF
	C 51	YQ10233-525	CAPACITOR	390PF
	C 52	YQ10233-526	CAPACITOR	.15MF
	C 53	YQ10233-527	CAPACITOR	470PF
	C 54	YQ10233-528	CAPACITOR	.0033MF
	C 55	YQ10233-529	CAPACITOR	.1MF
	D 31	DAN202	DIODE	OR MA151WK
	D 51	VIDEO PARTS	DIODE	
	IC 31	BA10358F	IC	
⚠	IC 51	VIDEO PARTS	IC	
	R 31	VIDEO PARTS	RESISTOR	6.8K 1/10W
	R 32	VIDEO PARTS	RESISTOR	5.1K 1/10W
	R 33	VIDEO PARTS	RESISTOR	1.6K 1/10W
	R 34	VIDEO PARTS	RESISTOR	470K 1/10W
	R 35	VIDEO PARTS	RESISTOR	3K 1/10W
	R 37	QRSA08J-222YN	RESISTOR	2.2K 1/10W
	R 38	VIDEO PARTS	RESISTOR	15K 1/10W
	R 39	QRSA08J-103YN	RESISTOR	10K 1/10W
	R 40	VIDEO PARTS	RESISTOR	360 1/10W
	R 41	VIDEO PARTS	RESISTOR	30K 1/10W
	R 42	VIDEO PARTS	RESISTOR	330 1/10W
	R 51	VIDEO PARTS	RESISTOR	47 1/10W
	R 52	VIDEO PARTS	RESISTOR	510K 1/10W
	R 53	VIDEO PARTS	RESISTOR	910K 1/10W

■ Sub (2) P.C. Board

BLOCK NO. 08

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	C 71	YQ10233-541	CAPACITOR	.1MF
	C 72	YQ10233-542	CAPACITOR	.01MF
	C 73	YQ10233-543	CAPACITOR	.15MF
	D 71	MA151WK	SI.DIODE	OR DAN202
⚠	IC 71	VIDEO PARTS	IC	
	J 31	VIDEO PARTS	RESISTOR	0 1/10W
	J 51	VIDEO PARTS	RESISTOR	0 1/8W
	J 52	VIDEO PARTS	RESISTOR	0 1/10W
	J 71	NRS181J-0RONY	M.G.RESISTOR	0 1/8W
	J 72	NRS181J-0RONY	M.G.RESISTOR	0 1/8W
	J 73	NRS181J-0RONY	M.G.RESISTOR	0 1/8W
	Q 71	UN2213	DIGI.TRANSISTOR	OR DTC144EK
	R 71	QRSA08J-221YN	RESISTOR	220 1/10W
	R 72	VIDEO PARTS	RESISTOR	750 1/10W
	R 73	QRSA08J-103YN	RESISTOR	10K 1/10W
	R 74	VIDEO PARTS	RESISTOR	4.7K 1/10W
	R 75	VIDEO PARTS	RESISTOR	100K 1/10W
	R 76	VIDEO PARTS	RESISTOR	4.7K 1/10W
	R 78	VIDEO PARTS	RESISTOR	47K 1/10W
	R 79	VIDEO PARTS	RESISTOR	47K 1/10W
	R 80	VIDEO PARTS	RESISTOR	270 1/4W
	R 81	QRSA08J-222YN	RESISTOR	2.2K 1/10W
	R 82	VIDEO PARTS	RESISTOR	7.5K 1/4W
	R 83	VIDEO PARTS	RESISTOR	6.2K 1/10W
	R 84	VIDEO PARTS	RESISTOR	270 1/10W

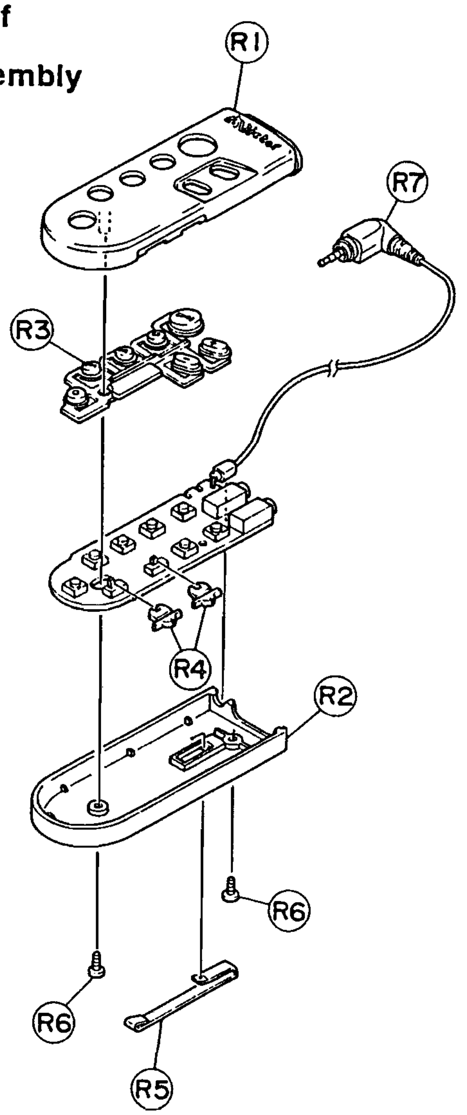
■ Switch P.C. Board

BLOCK NO. 09

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	CN 2	YQ10233-524	CAP CONNECTOR	
	SW 1	YQ10233-536	SWITCH	

Wired Remote Control Unit

■ Exploded View of Enclosure Assembly

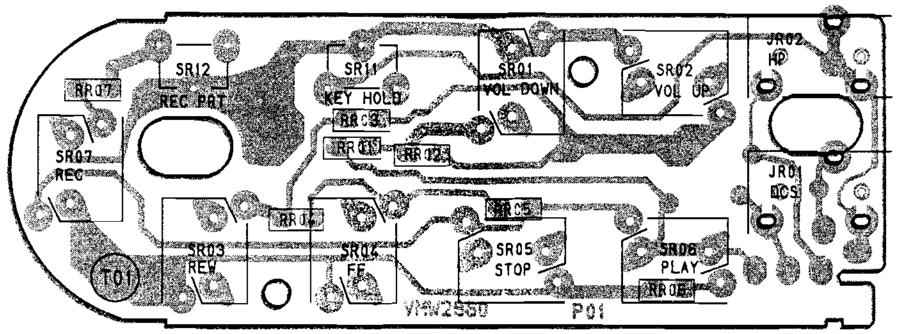


■ Enclosure Assembly parts list

BLOCK NO. M5MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	R 1	VJD2388-002	UPPER CASE		1
	R 2	VJD3923-001	LOWER CASE		1
	R 3	VXP3509-001	PUSH BUTTON ASY		1
	R 4	VXS4390-001	SLIDE KNOB		2
	R 5	VKY4658-001	PLATE SPRING		1
	R 6	SDSF2006M	SCREW		2
	R 7	VMP0104-001	MINI PLUG WIRE		1

■ Wired remote control unit P.C. Board


SR12
REC PRT
RR07
SR07
REC
SR11
KEY HOLD
RR03
RR01
RR12
SR01
VOL DOWN
SR02
VOL UP
JR02
HP
JR01
DCS
RR04
RR05
SR03
REW
SR04
FF
SR05
STOP
SR06
PLAY
RR06
T01
VMW2550
P01

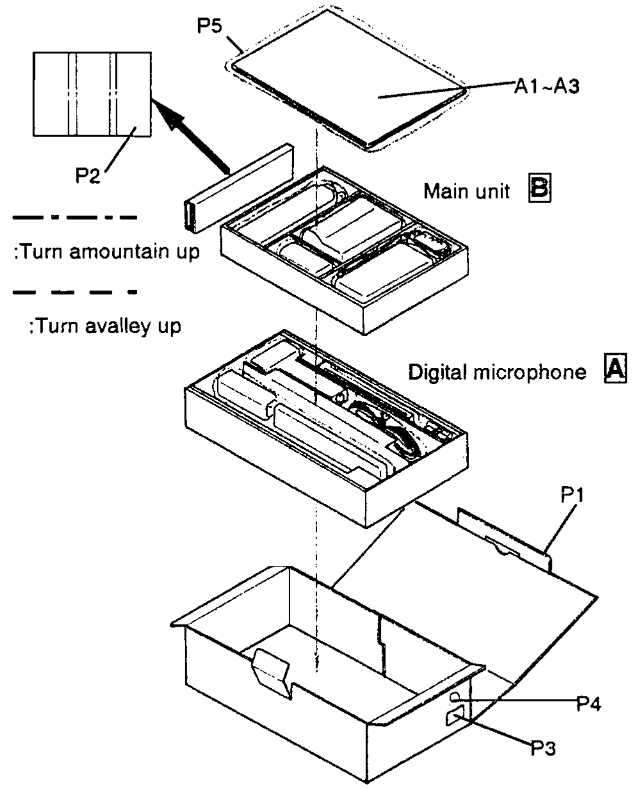
■ Wired Remote Control Unit P.C.Board

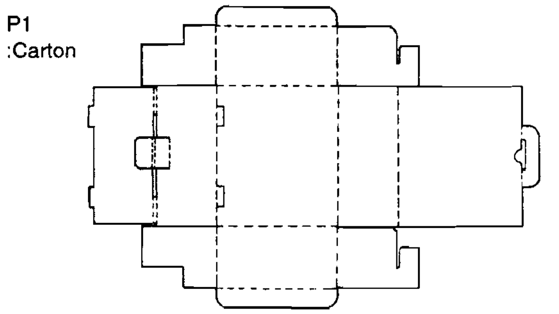
BLOCK NO. 10

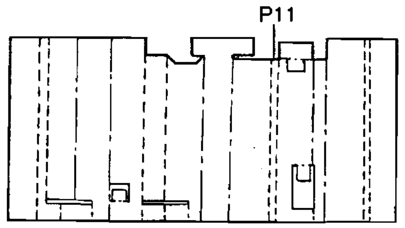
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS
	JR 01	VMJ4029-101	JACK	DCS
	JR 02	VMJ4029-101	JACK	HEAD PHONE
	RR 01	NRSA02J-752NY	MG RESISTOR	7.5K 5% 1/10W
	RR 02	NRSA02J-362NY	MG RESISTOR	3.6K 5% 1/10W
	RR 03	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W
	RR 04	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W
	RR 05	NRSA02J-622NY	MG RESISTOR	6.2K 5% 1/10W
	RR 06	NRSA02J-473NY	MG REGISTOR	47K 5% 1/10W
	RR 07	NRSA02J-753NY	MG RESISTOR	75K 5% 1/10W
	SR 01	QSP4H11-V14Z	TACT SWITCH	FOR VOL DOWM
	SR 02	QSP4H11-V14Z	TACT SWITCH	FOR VOL UP
	SR 03	QSP4H11-V14Z	TACT SWITCH	FOR FF
	SR 04	QSP4H11-V14Z	TACT SWITCH	FOR REW
	SR 05	QSP4H11-V14Z	TACT SWITCH	FOR STOP
	SR 06	QSP4H11-V14Z	TACT SWITCH	FOR PLAY
	SR 07	QSP4H11-V14Z	TACT SWITCH	FOR REC
	SR 11	QSS1A12-V01A	SLIDE SW	KEY HOLD SW
	SR 12	QSS1A12-V01A	SLIDE SW	REC PROTECT SW

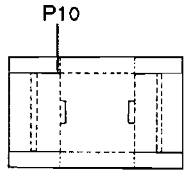
Illustration of Packing and Parts List

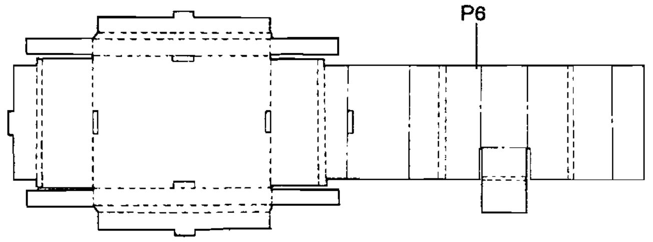
■ XD – P1PRO :General

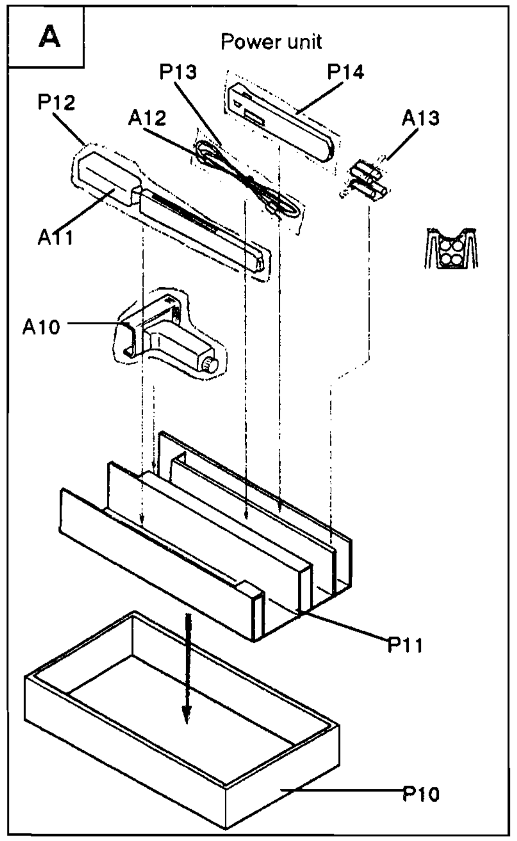

P5
A1~A3
P2
Main unit B
:Turn amountain up
:Turn avalley up
Digital microphone A
P1
P4
P3

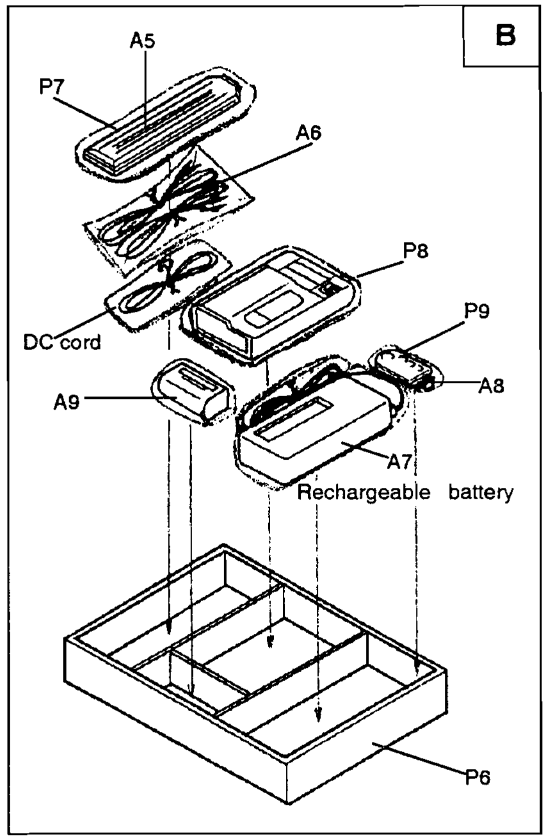


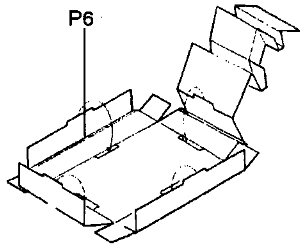







A
Power unit
P13
P14
P12
A12
A13
A11
A10
P11
P10


B
A5
P7
A6
P8
DC cord
P9
A9
A8
A7
Rechargeable battery
P6



■ XD – P1PRO : Packing Parts List

BLOCK NO. M6MM□□□□

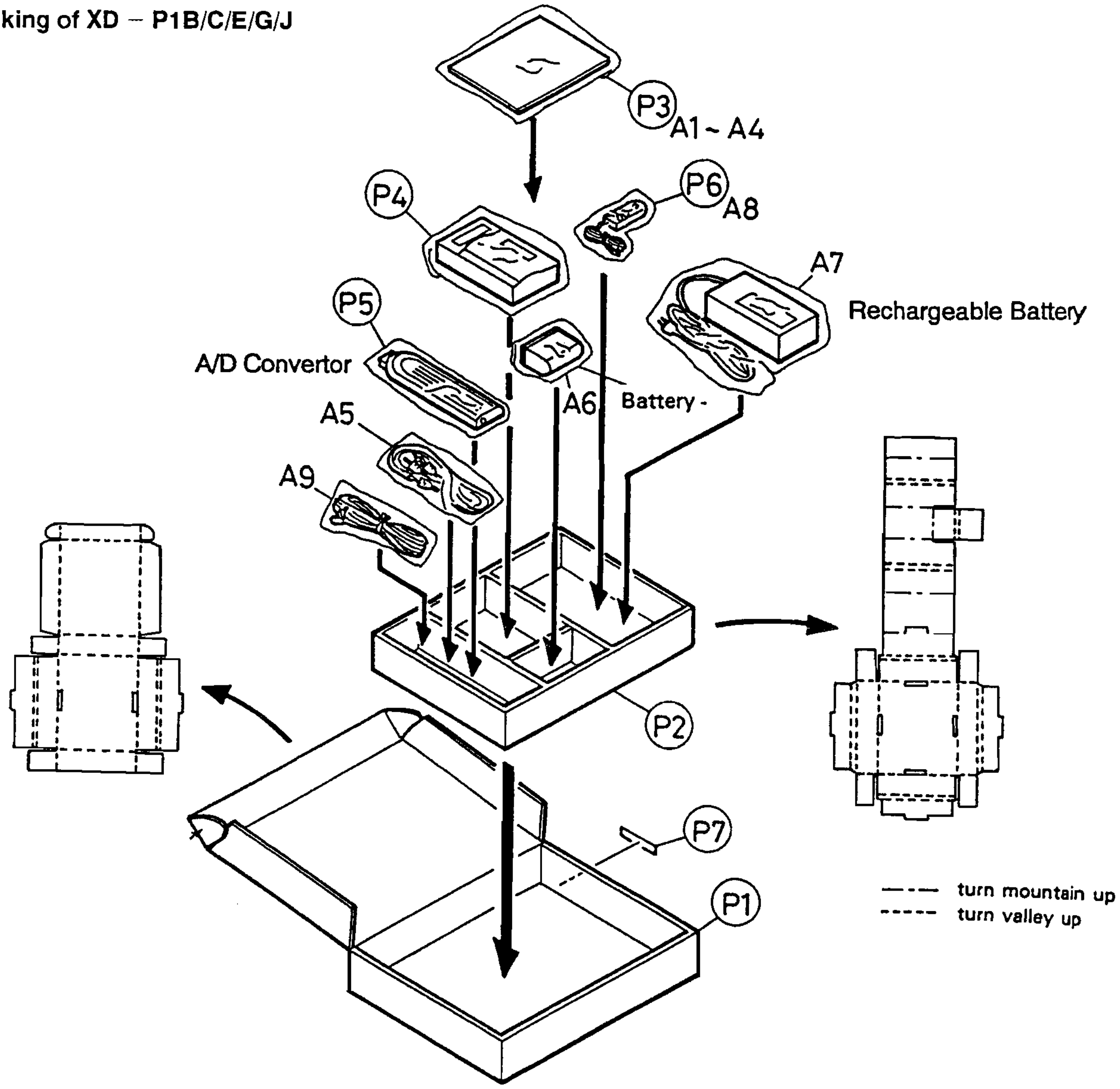
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	P 1	VPC2302-003	CARTON		1	
	P 2	VPK3277-001	CUSHION SHEET		1	
	P 3	VND3046-002	SERIAL TICKET		1	J
		VND3046-003	SERIAL TICKET		1	E
		VND3046-004	SERIAL TICKET		1	B
		VND3046-006	SERIAL TICKET		1	C
		VND3046-005	SERIAL TICKET		1	G
	P 4	QZLA001-005	GREEN LABEL		1	
	P 5	VPE3005-005	POLY BAG	INSTRUCTIONS	1	
	P 6	VPK3243-001	CUSHION SHEET		1	
	P 7	QPGA010-02003	POLY.BAG	A/D CONVERTOR	1	
	P 8	QPGA012-02505	ENVELOPE	FOR SET	1	
	P 9	QPGA005-02303	POLY.BAG	REMOCON UNIT	1	
	P 10	VPK3287-001	CUSHION SHEET 2	MIC SECTION	1	
	P 11	VPK3247-001	CUSHION SHEET	MIC SECTION	1	
	P 12	QPGA015-03503	POLY BAG		1	
	P 13	QPGA010-02003	POLY BAG	COAXIAL CABLE	1	
	P 14	QPGA010-02003	POLY BAG	POWER UNIT	1	

■ XD – P1PRO : Accessories

BLOCK NO. M7MM□□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	A 1	VNN2302-211	INSTRUCTIONS	XD-P1	1	B/E
		VNN2302-451	INSTRUCTIONS	XD-P1	1	E/G
		VNN2302-611	INSTRUCTIONS	XD-P1	1	J
		VNN2302-215	INSTRUCTIONS	ENGL/SPAN/FREN	1	G/J
		VNN2302-455	INSTRUCTIONS	DUTC/GERM/DANI	1	G
	A 2	VNN9187-451	INSTRUCTIONS	MU-Z1PRO	1	G
		VNN9187-611	INSTRUCTIONS	MU-Z1PRO	1	J
	A 3	BT-20137	SERVICE NETWORK		1	
	A 6	VMP0103-001	LINE CORD		2	
⚠	A 7	VGB0090-32	AC ADAPTER		1	J
⚠		VGB0090-034	AC ADAPTER		1	G
	A 8	VDL2302-102R	REMOCON UNIT		1	
	A 9	VGZ0113-002	BATTERY UNIT AS		1	G
		VGZ0113-005	BATTERY UNIT AS		1	J
	A 10	VGZ0131-001	MIC.STAND		1	
	A 11	MU-Z1PRO	DIGITAL MIC.		1	
	A 12	VMP0105-001	COAX.CABLE ASSY		1	
	A 13	R6PRPA-2ST	DRY CELL		4	J
		UM3H-2P	BATTERY		4	G

■ Packing of XD – P1B/C/E/G/J


P3
A1 ~ A4
P4
P6
A8
A7
Rechargeable Battery
P5
A/D Convertor
A6
Battery -
A5
A9
P2
P7
P1
turn mountain up
turn valley up

■ XD – P1 Packing Parts List

BLOCK NO. M6MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	P 1	VPC2302-002	CARTON		1	
	P 2	VPK3243-001	CUSHION SHEET		1	
	P 3	VPE3005-005	POLY BAG	INSTRUCTIONS	1	
	P 4	QPGA012-02505	POLY BAG	SET	1	
	P 5	QPGA010-02003	POLY BAG	AD CONVERTOR	1	
	P 6	QPGA005-02303	POLY BAG	REMOCON UNIT	1	
	P 7	VND3044-002	SERIAL TICKET		1	J
		VND3044-003	SERIAL TICKET		1	E
		VND3046-005	SERIAL TICKET		1	G
		VND3046-006	SERIAL TICKET		1	C
	P 8	QPGA010-02003	POLY.BAG	LINE CORD	1	
	P 9	E66416-003	ENVELOPE	WARRANTY CARD	1	J
	P 10	VND3069-044	EAN CODE LABEL		1	B/E/G

■XD – P1 Accsessories

BLOCK NO. M7MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX
	A 1	VNN2302-211	INSTRUCTIONS		1	B/E
		VNN2302-451	INSTRUCTIONS		1	E/G
		VNN2302-611	ISTRUCTIONS		1	J
	A 2	BT-20044G	SAFETY INST.		1	J
		BT-20047F	WARRANTY CARD		1	J
		BT-20066A	WARRANTY CARD		1	B
		BT-20117	WARRANTY CARD		1	G
		BT-20122-1	WARRANTY CARD		1	C
		BT-20137	SERVICE NETWORK		1	J
		BT20060	WARRANTY CARD		1	B
	A 3	E43486-340A	SAFETY I.SHEET		1	B
	A 5	VMP0103-001	LINE CORD		2	
	A 6	BN-R602	BATTERY UNIT	VGZ0113-002	1	
	A 7		RECHARG.BATTERY		1	J
			RECHARG.BATTERY	AA-R909	1	B
			RECHARG.BATTERY		1	E/G
	A 8	VDL2302-002R	REMOCON UNIT		1	
	A 9	HL21289A	DC CORD	RECHARG.BATTERY	1	

VICTOR COMPANY OF JAPAN, LIMITED
PERSONAL AUDIO PRODUCTS DIVISION 10-1, 1-chome, Ohwatari-machi, Maebashi-city, Japan

Printed in Ja
—H0501—